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BULLETIN No. 116-2

CRUSTAL STRAIN AND FAULT MOVEMENT INVESTIGATION

Faults and Earthquake Epicenters in California

JANUARY 1964

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State of California
THE RESOURCES AGENCY OF CALIFORNIA
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HUGO FISHER *Administrator* The Resources Agency of California	EDMUND G. BROWN *Governor* State of California	WILLIAM E. WARNE *Director* Department of Water Resources

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ADDRESS REPLY TO
P. O. Box 388
Sacramento 2, Calif.

THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
1120 N. STREET, SACRAMENTO

March 5, 1964

The Honorable Edmund G. Brown, Governor, and
Members of the Legislature of the
State of California

Gentlemen:

I have the honor to transmit herewith Bulletin No. 116-2, "Crustal Strain and Fault Movement Investigation - Faults and Earthquake Epicenters in California." This report, the second of a series, presents seismological data on earthquakes in and near California and geological data on California's earthquake faults. These data are utilized by the department in planning and designing the State Water Facilities. Publication of these data has been prompted by our recognition of their potential usefulness to engineers, geologists, seismologists, actuaries, and others concerned with appraising earthquake risk and developing earthquake-resistant designs for engineering structures in California.

Sincerely yours,

William E. Warne

Director

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

EDMUND G. BROWN, Governor
HUGO FISHER, Administrator, The Resources Agency of California
WILLIAM E. WARNE, Director, Department of Water Resources
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William L. Berry	Division Engineer
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The investigation leading to this report
was conducted under the direction
of

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and

Ralph G. Allison**	Chief, Planning Investigations Section

by

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* Albert J. Dolcini was Chief of the Statewide Investigations Branch until July 1, 1962.

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Mechanics of faulting; relation of seismicity to geologic structures; tectonics of Southern California and Baja California.

ACKNOWLEDGMENT

Data and consultation by federal, state, and private agencies and individuals have materially assisted the department in the preparation of this report on faults and earthquakes in California. The Department of Water Resources gratefully acknowledges the helpful cooperation of these agencies and their respective staffs. Data, earthquake bulletins, and geologic maps were furnished by personnel of the U. S. Geological Survey, California Division of Mines and Geology, the Seismological Laboratory of the California Institute of Technology, the Seismographic Stations of the University of California at Berkeley, and the U. S. Coast and Geodetic Survey.

The helpful cooperation of the following individuals merits special acknowledgment: Professor Hugo Benioff, California Institute of Technology for continuing consulting services and for his helpful review of this report; Professors Charles F. Richter and Clarence R. Allen, California Institute of Technology, and Dr. Pierre St. Amand, Naval Ordnance Test Station, China Lake, California, for supplying sets of IBM earthquake cards used in compiling epicenter data; Messrs. Charles W. Jennings and Rudolph Strand, California Division of Mines and Geology, for furnishing geologic maps and other help used in compiling the fault map; and Professor Don Tocher, University of California, Berkeley, for advice and consultation.

Anyone who can supply additional data or corrections is asked to send such information to the Department of Water Resources, Post Office Box 388, Sacramento 2, California.

INTRODUCTION

Bulletin No. 116-2 is the second in a series of reports pertaining to the department's Crustal Strain and Fault Movement Investigation. The department has recognized the need for a readily accessible source of basic data on earthquakes in California for use in planning studies and final design stages of water resources development. This bulletin brings together, on a statewide basis, a comprehensive compilation of data on location of faults and earthquake epicenters. These and other seismologic, geologic, and earthquake engineering data are utilized in preparing estimates of the probability of occurrence of earthquakes and the damaging earthquake forces which should be anticipated at sites proposed for construction of the authorized State Water Facilities. Knowledge of these factors is required for the rational development of aseismic design criteria for hydraulic structures to obviate or mitigate any adverse effects of earthquakes at specific sites. The earthquake and fault data are also used in connection with the long-range planning of additional projects proposed for inclusion in the California Water Resources Development System.

The report is divided into three parts which are briefly described in the following paragraphs.

Part 1 of this report presents a tabulation of data on all earthquakes, Richter magnitude 4 and greater, which occurred in California and adjacent areas during the 28-year period from 1934 through 1961. Data on over 10,000 earthquakes smaller than magnitude 4, which were recorded during this same period, have not been included in this tabulation or on the earthquake epicenter and fault map of California presented in Part 3. However, these data are available in the files of the Department of Water Resources.

Part 2 of the report is a bibliography of significant references used in compiling the fault map of California. An index map of the major sources of geologic data utilized in the fault map compilation has been included in the pocket at the back of the report.

Part 3 of the report is the Earthquake Epicenter and Fault Map of California which has been placed in the pocket at the back of the report. All faults classified as "active" by Dr. C. F. Richter*, other faults thought to be active, and all other faults and fault systems which could be delineated at a map scale of 1:500,000 have been included on the map and are shown in red. Large areas of the map which appear devoid of faults may be true representations of actual conditions. However, it is highly probable that such areas signify either that detailed geologic mapping is not available, or that the faults in such areas have been obscured by alluvium, colluvium, and/or vegetation. Epicentral locations of all earthquakes, magnitude 4 and greater, which occurred in California during the period of record from 1934 through 1961, are shown in black on the map. Map margins have been marked off in degrees and minutes to facilitate cross-referencing between the map data and the earthquake epicenter tabulation. The Earthquake Epicenter and Fault Map is divided into three sections. The northern section, Sheet 1, covers the general area from the California-Oregon border on the north to Point Arena. Sheet 1 also includes small-scale inset maps of California which show the approximate locations of the epicenters of major earthquakes of historic record, and the faults along which movement or surface rupture has been observed. The central section, Sheet 2, covers the area from Point Arena to Coalinga. The southern section, Sheet 3, covers the area from Coalinga to the California-Mexico International Boundary.

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*Richter, C. F. "Elementary Seismology." W. H. Freeman and Company, San Francisco, p. 441. 1958.

Discussion of Basic Terms

A few basic geological and seismological concepts related to commonly used technical terms are briefly discussed in the following paragraphs. Except as otherwise noted, the definitions within quotation marks which immediately follow basic terms were obtained from the "Glossary of Geology and Related Sciences" published by the American Geological Institute.

Fault

> "A fracture or fracture zone along which there has been displacement of the two sides relative to one another parallel to the fracture. The displacement may be a few inches or many miles."

Active faults are those along which recurrence of fault movement is predicted. In the view of most authorities, abrupt release of accumulated strain energy in the rocks of the earth's crust by fault movement is the primary cause of California's earthquakes. The earthquake-producing fault slip almost always originates at depth (usually 10 to 30 kilometers in California), and propagates along the fault in two dimensions as a spreading active area. The size of the active earthquake area increases with the size of the earthquake. In earthquakes smaller than magnitude 7, the break seldom reaches the surface. For larger shocks it reaches the surface and propagates horizontally up to several hundred miles depending upon the size of the earthquake. Movement along some faults apparently proceeds gradually, without accompanying earthquakes, as is shown by continuing movement on the active thrust fault in the Buena Vista Hills in Kern County.

Focus

The focus of an earthquake is the point within a fault at which slip begins. The focal depth of earthquakes in California is commonly from 10 to 30 kilometers. As movement along a fault proceeds rapidly outward from the focus, strain energy in the crust is converted into earthquake-producing elastic wave energy which first radiates from the fault surface and continues afterward to radiate from the entire strain zone until the conclusion of the fault movement.

Epicenter

> "The point on the earth's surface directly above the focus of an earthquake."

Locations of earthquake epicenters are computed from earthquake recordings obtained at three (or more) seismograph stations. As a result of imperfect location of epicenters, angle of fault inclination other than vertical, and/or nonrecognition of fault surface traces, earthquake epicenters do not necessarily coincide with traces of known faults. Absence of indicated faults in an area of numerous epicenters does not preclude their presence; rather, the available geologic mapping has not revealed any.

Magnitude

The definition of magnitude originally proposed by Dr. C. F. Richter is as follows:

> "The magnitude of any shock is taken as the logarithm of the maximum trace amplitude, expressed in microns (thousandths of a millimeter), with which the standard short-period torsion seismometer (period To = 0.8 sec., magnification V = 2800, damping h = 0.8 or nearly critical) would register that shock at an epicentral distance of 100 kilometers (62 miles)."*

Subsequent attempts to relate magnitude to the total energy released by an earthquake in the form of elastic waves has resulted in some revision and redefinition of magnitude. Magnitude is intended to be an objective, instrumentally determined rating of the size of a given earthquake. Magnitude can be calculated from the wave amplitude recorded by seismographs at any distance from the source of a quake. Each upward step of one magnitude unit means a ten-fold increase in the amplitude of the recorded waves because the scale is logarithmic. The scale has no arbitrary "ceiling," but 8.9 appears to be the largest magnitude of any known earthquake.

Intensity

> "A number describing the effects on an earthquake on man, on structures built by him, and on the earth's surface."

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*Richter, C. F. "An Instrumental Earthquake Magnitude Scale." Seismological Society of America Bulletin. Vol. 25, p. 7. 1935.

Intensity is a qualitative, noninstrumental rating of the degree of shaking at a specified place. The earthquake intensity at each locality within an area shaken by an earthquake is rated on the basis of an "earthquake intensity scale." The Modified Mercalli Intensity Scale of 1931 is the one most commonly used today in the United States. In that scale, the grades of intensity are indicated by Roman numerals from I to XII.

PART 1

CALIFORNIA EARTHQUAKES

CALIFORNIA EARTHQUAKES

California is located in the second most highly active seismic area in the United States, the first being Alaska. Major earthquakes in California pose a potential threat to hydraulic facilities throughout the State, including the authorized State Water Facilities. Therefore, appraisal of earthquake risk, including evaluation of the various hazards related to earthquakes, is an important factor in the location, design, construction, and operation of the various facilities of such an extensive project.

Most of the reported earthquakes in California are associated with major fault systems located in the following areas: the Coast Ranges in Central and Northern California; the Transverse Ranges and the Tehachapi Mountains between Central and Southern California; the Peninsular Ranges and Colorado Desert in Southern California; and the Basin and Range Province, including the eastern side of the Sierra Nevada.

The tabulated earthquake data presented herein provide comprehensive coverage for instrumentally located epicenters for only a very short span of time, viz., 1934 through 1961. Large-magnitude earthquakes which occurred between 1906 and 1934 have also been included in the tabulation because magnitudes and epicenter data were available; however, such data are not available for smaller quakes which occurred during this period. Epicenters and magnitudes of 29 major earthquakes which occurred during the period from 1769 to 1906 are not included in the tabulation because instrumental data on these are not available. Of the 29 large-magnitude earthquakes which struck California in the period 1769 through 1906, three were "outstanding" (comparable to the San Francisco earthquake of 1906), eight were "great" (comparable to the Kern County earthquake of 1952), and 20 were "very strong" (comparable to the Santa Barbara earthquake of 1925).

Three "Outstanding" California Earthquakes

The following are the three largest earthquakes which have struck California during recent historic time; all had estimated magnitudes over 8.

January 9, 1857, on San Andreas fault near Fort Tejon

The available evidence indicates that this earthquake was at least comparable in magnitude and displacement to the 1906 shock. Ground rupture along the San Andreas fault could be traced from San Bernardino on the south to Cholame, San Luis Obispo County, on the north. Review of old records indicates rupture may have extended as far south as Whitewater, Riverside County.

March 26, 1872, on unnamed fault of Sierra Nevada fault system in Owens Valley

The measured maximum horizontal and vertical offsets were 20 and 23 feet, respectively. Surface ruptures were observed over a distance of approximately 70 miles.

April 18, 1906, on San Andreas fault near San Francisco

The Richter magnitude assigned to this quake is 8.3. The maximum horizontal displacement was 21 feet in alluvial materials.

The maximum vertical displacement was 3 feet. The linear extent of fault movement during this earthquake was at least 190 miles and is thought by many authorities to have continued northward from Point Arena under the ocean to a total of 270 miles.

California Earthquakes Magnitude 4 and Greater, 1934 through 1961

Data on earthquakes in California and parts of Nevada and Mexico, Richter magnitude 4.0 and greater, have been tabulated from IBM earthquake data cards and are presented herein. The epicentral locations of the earthquakes are shown on the Earthquake Epicenter and Fault Map of California at the back of this report. In the tabulation, the earthquake epicenters are listed in the order of increasing latitude. Headings for the published data are arranged in the following manner:

LATITUDE		LONGITUDE		DATE			TIME				
DEG.	MIN.	DEG.	MIN.	MO.	DAY	YR.	HR.	MIN.	SEC.	QUALITY	MAGNITUDE

LATITUDE - Degrees and minutes north.
LONGITUDE - Degrees and minutes west.
DATE - Month, day, and year.
TIME - Hour, minute, and second (Greenwich Civil Time).*
QUALITY - Relative accuracy of plot of epicentral locations.
  "A" - Specially investigated.
  "B" - Probably within 5 kilometers (3.1 miles).
  "C" - Probably within 15 kilometers (9.3 miles).
  "D" - Very rough.
MAGNITUDE - The rating of the earthquake on Richter scale.

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*By international custom, Greenwich Civil Time is used in technical reports on earthquakes. Pacific Standard Time is eight hours behind Greenwich Civil Time.

This tabulation of earthquake data includes portions of Nevada and Mexico in order to give greater coverage along the borders of the State. Most of these out-of-state epicenters are not plotted on the Fault and Earthquake Epicenter Map of California at the back of the report. The map shows only the locations of the first or largest shock at any specific location; however, the available data for smaller or subsequent earthquakes at that location have been included in the printed tabulation. Data are not available for a few shocks, mostly aftershocks; these, therefore, are not included in the tabulation.

Where blanks are found within the various columns, precise data were not available in published reports. Where the minute columns have been left blank, the locations of the earthquake epicenters are considered to be in the general area of the indicated latitude and longitude divisions.

The Seismological Laboratory at Pasadena and the Seismograph Stations of the University of California at Berkeley at times have listed the same shocks in their bulletins, but with slight differences in calculated epicentral locations and magnitudes. In such instances, the "Quality of Plot," as indicated by the respective institutions, was the principal criterion used in choice of data for inclusion in this report.

EARTHQUAKE EPICENTERS

(Magnitude 4.0 and greater,
1934-1961, inclusive)

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
31		114		05/28/34	03	32		D	4.
31		114		11/02/34	18	49		D	5.
31		114		11/02/34	19	42		D	4.
31		114		11/14/34	14	12		D	4.
31		114		11/14/34	14	31		D	4.
31		114		06/08/35	04	31		D	4.
31		114		04/24/39	21	15		D	4.
31		114		04/08/41	18	10	18	D	4.
31		114		04/09/41	15	50	00	D	4.
31		114		04/09/41	16	09	00	D	4.5
31		114		04/09/41	17	08	30	D	6.
31		114		04/09/41	17	39	42	D	5.
31		114		04/11/41	23	26	1	D	4.
31		114		07/04/57	23	27	12		4.6
31		115		04/21/32	23	49	55	D	4.0
31		115		12/30/34	13	52		D	6.
31		115		12/30/34	14	30		D	4.5
31		115		12/30/34	15	05		D	4.5
31		115		12/30/34	15	34		D	4.5
31		115		12/30/34	18	24		D	4.
31		115		12/30/34	18	38		D	4.5
31		115		12/30/34	19	23		D	4.5
31		115		01/04/35	21	59		D	4.
31		115		04/05/35	23	40		D	4.
31		115		05/26/40	08	50		D	4.5
31		115		06/27/40	07	05		D	4.
31		115		02/23/41	08	12		D	4.
31		115		03/07/41	02	37		D	4.
31		115		09/16/49	15	45		D	4.8
31		115		09/16/49	20	45		D	5.1
31		117		09/02/51	16	27	32		5.2
31	00	114	30	05/14/34	13	14		D	5.5
31	00	116	00	10/27/44	06	32	48	D	4.0
31	00	116	00	10/27/44	12	27	00	D	4.2
31	00	116	00	10/28/44	04	01	29	D	4.9
31	18	115	36	04/20/45	22	32	06	D	4.3
31	26	115	24	09/07/45	14	45	16	C	4.4
31	30	113	30	06/23/51	03	32	40		4.9
31	30	113	36	10/22/52	01	35	52	D	4.1
31	30	113	36	10/22/52	19	46	36	D	5.1

See page 11 for explanation of terms.

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
31	30	114	00	04/22/45	09	45	48	D	5.3
31	30	114	00	04/22/45	22	13	18	D	4.9
31	30	115	30	02/14/56	14	45	32	C	5.0
31	30	115	30	02/14/56	18	33	34	C	6.3
31	30	115	30	02/14/56	18	39	04	D	4.9
31	30	115	30	02/14/56	18	40	32	D	4.9
31	30	115	30	02/14/56	18	41	15	D	4.9
31	30	115	30	02/14/56	22	07		D	4.7
31	30	115	30	02/15/56	01	20	38	C	6.4
31	30	115	30	02/15/56	01	25	11	C	4.9
31	30	115	30	02/15/56	01	37		D	4.5
31	30	115	30	02/15/56	02	28	39	C	5.3
31	30	115	30	02/15/56	02	40		D	4.5
31	30	115	30	02/15/56	06	00		D	4.6
31	30	115	30	02/15/56	06	43		D	4.5
31	30	115	30	02/15/56	07	04		D	4.6
31	30	115	30	02/15/56	07	07	47	C	5.2
31	30	115	30	02/15/56	08	35	54	C	5.0
31	30	115	30	02/15/56	09	31		D	4.5
31	30	115	30	02/15/56	18	54	44	C	4.9
31	30	115	30	02/16/56	01	30		D	4.6
31	30	115	30	02/16/56	05	53	02	C	4.9
31	30	115	30	02/16/56	08	12	28	C	5.0
31	30	115	30	02/17/56	01	13		D	4.5
31	30	115	30	02/17/56	03	57		D	4.5
31	30	115	30	02/17/56	06	25		D	4.7
31	30	115	30	02/17/56	09	25	00	C	4.9
31	30	115	30	02/17/56	10	40		D	4.7
31	30	115	30	02/18/56	15	11		D	4.6
31	30	115	30	02/19/56	01	58		D	4.5
31	30	115	30	02/19/56	06	54		D	4.7
31	30	115	30	02/21/56	02	50		D	4.7
31	30	115	30	02/21/56	23	00		D	4.6
31	30	115	30	02/24/56	13	17		D	4.5
31	30	115	30	02/24/56	14	04		D	4.7
31	30	115	30	02/24/56	16	59		D	4.7
31	30	115	30	02/24/56	20	22		D	4.8
31	30	115	30	02/25/56	06	04		D	4.6
31	30	115	30	02/25/56	08	08	51	C	5.1
31	30	115	30	02/25/56	19	53		D	4.5

See page 11 for explanation of terms.

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
31	30	115	30	02/25/56	22 35	D	4.8
31	30	115	30	02/26/56	05 49	D	4.7
31	30	115	30	02/26/56	08 18	D	4.5
31	30	115	30	02/29/56	09 01	D	4.7
31	30	115	30	03/01/56	02 53	D	4.8
31	30	115	30	03/03/56	18 23	D	5.1
31	30	115	30	03/07/56	13 36	D	4.5
31	30	115	30	03/07/56	15 29	D	4.8
31	30	115	30	03/09/56	00 32	D	5.0
31	30	115	30	03/09/56	04 25 01	C	4.9
31	30	115	30	03/10/56	14 12 54	C	5.0
31	30	115	30	03/14/56	05 29 34	C	4.9
31	30	115	30	03/14/56	15 49	D	4.8
31	30	115	30	03/16/56	10 33	D	4.6
31	30	115	30	03/16/56	10 52	D	4.5
31	30	115	30	03/16/56	16 29	D	4.5
31	30	115	30	03/17/56	01 27	D	4.6
31	30	115	30	03/31/56	07 27	D	4.7
31	30	115	30	04/02/56	19 47 36		4.5
31	30	115	30	04/12/56	00 30	C	4.3
31	30	115	30	04/19/56	05 59	C	4.0
31	30	115	30	04/22/56	23 07	C	4.3
31	30	115	30	04/23/56	14 17	C	4.3
31	30	115	30	04/25/56	09 08 29	C	4.7
31	30	115	30	05/07/56	08 39	C	4.2
31	30	115	30	05/09/56	12 52	C	4.4
31	30	115	30	05/10/56	16 13	C	4.2
31	30	115	30	06/07/56	03 50	C	4.0
31	30	115	30	06/20/56	20 15	C	4.3
31	30	115	30	06/28/56	00 05 11	C	4.0
31	30	115	30	07/04/56	21 41	C	4.7
31	30	115	30	08/03/56	04 27	C	4.6
31	30	115	30	08/25/56	15 57 43	C	5.0
31	30	115	30	03/13/58	23 15 00	D	4.3
31	30	115	30	01/25/61	07 17 42	D	4.5
31	30	116	00	11/13/34	14 22	D	4.
31	30	116	00	10/21/54	07 51	D	4.3
31	30	116	00	10/24/54	03 11	D	4.3
31	30	116	00	10/24/54	04 11	D	4.4
31	30	116	00	10/24/54	05 31	D	4.0

See page 11 for explanation of terms.

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
31	30	116	00	10/24/54	09	44	08	D	6.0
31	30	116	00	10/24/54	10	42		D	4.5
31	30	116	00	10/24/54	11	21	24	D	5.4
31	30	116	00	10/24/54	11	30		D	4.3
31	30	116	00	10/24/54	14	06	08	D	4.7
31	30	116	00	10/24/54	18	11		D	4.2
31	30	116	00	10/24/54	20	59		D	4.1
31	30	116	00	10/25/54	00	51		D	4.3
31	30	116	00	10/25/54	06	30		D	4.4
31	30	116	00	11/12/54	12	26	47		6.3
31	30	116	00	11/12/54	12	34		D	4.9
31	30	116	00	11/12/54	13	07		D	4.3
31	30	116	00	11/12/54	13	16	42	D	5.0
31	30	116	00	11/12/54	13	45		D	4.3
31	30	116	00	11/12/54	13	56		D	4.3
31	30	116	00	11/12/54	14	33		D	4.3
31	30	116	00	11/12/54	14	34		D	4.4
31	30	116	00	11/12/54	15	48		D	4.7
31	30	116	00	11/12/54	17	24		D	4.6
31	30	116	00	11/12/54	20	19		D	4.8
31	30	116	00	11/12/54	22	21		D	4.5
31	30	116	00	11/12/54	23	38		D	4.2
31	30	116	00	11/12/54	23	51		D	4.1
31	30	116	00	11/13/54	10	19		D	4.6
31	30	116	00	11/13/54	16	23		D	4.5
31	30	116	00	11/14/54	00	57		D	4.8
31	30	116	00	11/14/54	02	17		D	4.3
31	30	116	00	11/14/54	05	36	19	D	5.4
31	30	116	00	11/14/54	14	10		D	4.0
31	30	116	00	11/14/54	16	04		D	4.2
31	30	116	00	11/14/54	23	05		D	4.2
31	30	116	00	11/17/54	11	55		D	4.9
31	30	116	00	11/17/54	15	46		D	4.2
31	30	116	00	11/25/54	14	06		D	4.6
31	30	116	00	11/27/54	19	38		D	4.2
31	30	116	00	11/28/54	13	50		D	4.1
31	30	116	00	11/29/54	14	07		D	4.2
31	30	116	00	12/11/54	07	33		D	4.4
31	30	116	00	12/13/54	19	22		D	4.4
31	30	116	12	01/15/53	10	31	43	D	4.0

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
31	30	116	30	02/18/39	05	57		D	4.
31	30	116	30	10/17/54	22	57	18		5.7
31	30	117	42	10/12/40	03	45	42	D	4.
31	30	118	36	07/16/56	00	39		D	4.9
31	35	115	35	05/22/56	17	09		C	4.1
31	35	115	40	02/10/56	04	18	15	C	5.0
31	35	115	40	02/11/56	06	24	25	C	5.4
31	35	115	40	03/03/56	06	34	03	C	4.9
31	35	115	40	03/03/56	18	23	13	C	5.1
31	35	115	40	04/04/56	07	38		C	4.4
31	35	115	40	04/04/56	14	59		C	4.3
31	35	115	40	04/15/56	00	51	33	C	4.0
31	35	115	40	04/24/56	00	15		C	4.4
31	35	115	40	05/04/56	03	09		C	4.4
31	35	115	40	05/14/56	14	52	22	C	4.6
31	35	115	40	05/26/56	10	18		C	4.3
31	35	115	40	06/24/56	03	54	17	C	4.2
31	35	115	40	09/23/56	08	51	55	C	4.9
31	35	115	40	09/23/56	08	55	24	C	4.6
31	36	115	06	02/09/35	07	53		D	4.
31	36	115	12	05/31/54	08	06	24	D	5.2
31	36	115	36	05/12/45	07	33		D	5.2
31	36	115	42	02/09/56	15	01	33	D	5.3
31	36	115	42	02/09/56	16	29	53	D	5.8
31	36	115	42	02/09/56	17	06	21	C	4.9
31	36	115	48	03/26/53	12	42	18	D	4.0
31	36	116	06	11/26/55	17	36	00	D	5.4
31	36	116	06	12/01/55	23	19	24	D	4.3
31	36	116	06	12/06/55	09	11	24	D	4.1
31	39	115	47	07/31/61	21	28	58	C	4.0
31	40	115	05	08/18/34	15	01		C	4.5
31	40	115	05	01/15/35	07	38		D	4.
31	40	115	05	07/21/35	00	46		D	4.
31	40	115	05	04/29/36	08	50		C	5.
31	40	115	05	07/04/39	21	44		C	4.5
31	40	115	05	07/07/40	18	43	00	C	5.
31	40	115	05	12/07/40	22	16	27	C	6.
31	40	115	05	12/09/40	00	35	02	C	4.
31	40	115	05	12/09/40	10	19	12	C	4.
31	40	115	18	06/14/59	06	13	35	D	4.6

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
31	41	115	18	06/16/46	00 39 35	C	4.2
31	42	115	00	04/19/54	01 20 48	D	4.0
31	42	115	00	09/10/54	12 11 18	D	4.2
31	42	115	06	12/25/36	08 31	D	4.
31	42	115	06	01/10/39	03 26	D	4.
31	42	115	06	01/22/39	04 51	D	4.
31	42	115	06	01/22/39	04 59	D	4.5
31	42	115	06	01/28/39	07 22	D	4.5
31	42	115	06	11/06/39	16 15	D	4.
31	42	115	06	12/14/39	12 17 18	D	4.5
31	42	115	06	09/12/40	00 06 30	D	4.
31	42	115	06	09/12/40	00 15 30	D	4.5
31	42	115	06	01/09/41	10 28 42	D	5.5
31	42	115	06	02/05/41	13 33 06	D	5.
31	42	115	06	04/08/46	19 45 12	D	4.2
31	42	115	12	08/11/55	17 46 20	D	4.8
31	42	115	54	02/09/56	14 34	D	5.6
31	42	115	54	02/09/56	14 36	D	4.5
31	42	115	54	02/09/56	14 40	D	4.6
31	42	115	54	02/09/56	14 45	D	4.7
31	42	115	54	02/09/56	14 48	D	4.8
31	42	115	54	02/09/56	14 50	D	4.6
31	42	115	54	02/09/56	15 25	D	4.5
31	42	115	54	02/09/56	15 40	D	4.7
31	42	115	54	02/09/56	15 48	D	4.5
31	42	115	54	02/09/56	16 11	D	4.6
31	42	115	54	02/09/56	17 23	D	4.7
31	42	115	54	02/09/56	17 47	D	4.6
31	42	115	54	02/09/56	17 50	D	4.7
31	42	115	54	02/09/56	21 07	D	4.7
31	42	115	54	02/09/56	23 56	D	4.5
31	42	115	54	02/10/56	00 05	D	4.6
31	42	115	54	02/10/56	00 12	D	4.5
31	42	115	54	02/10/56	00 32	D	4.5
31	42	115	54	02/10/56	02 53	D	4.5
31	42	115	54	02/10/56	03 57	D	4.5
31	42	115	54	02/10/56	04 20	D	4.6
31	42	115	54	02/10/56	04 23	D	4.5
31	42	115	54	02/10/56	04 39	D	4.5
31	42	115	54	02/10/56	05 55	D	4.6

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LATITUDE DEG	LATITUDE MIN	LONGITUDE DEG	LONGITUDE MIN	DATE MO DAY YR	TIME HR	TIME MIN	TIME SEC	QUALITY (ACCURACY)	MAGNITUDE
31	42	115	54	02/10/56	07	33		D	4.7
31	42	115	54	02/10/56	11	41		D	4.5
31	42	115	54	02/10/56	12	30		D	4.5
31	42	115	54	02/10/56	13	42		D	4.6
31	42	115	54	02/10/56	19	48		D	4.5
31	42	115	54	02/11/56	05	19		D	5.0
31	42	115	54	02/11/56	06	31		D	4.7
31	42	115	54	02/11/56	16	59		D	4.6
31	42	116	30	01/12/41	12	08		D	4.
31	42	116	54	11/21/52	19	26	18	D	4.1
31	42	117	12	02/27/37	01	29		D	5.
31	45	115	55	02/09/56	14	16	24	C	4.7
31	45	115	55	02/09/56	14	32	38	C	6.8
31	45	115	55	02/09/56	14	46	23	C	4.9
31	45	115	55	02/09/56	15	24	26	C	6.1
31	45	115	55	02/09/56	15	45	04	C	4.9
31	45	115	55	02/09/56	16	59	53	C	5.7
31	45	115	55	02/09/56	18	48	45	C	5.7
31	45	115	55	02/10/56	14	30	12	C	4.9
31	45	115	55	02/10/56	15	09	29	C	5.0
31	45	115	55	02/10/56	18	12	54	C	5.5
31	45	115	55	02/11/56	02	57	46	C	5.1
31	45	115	55	02/11/56	06	11	24	C	5.0
31	45	115	55	03/09/56	00	32	40	C	5.0
31	45	115	55	05/23/56	00	14		C	4.2
31	45	115	55	05/24/56	09	52		C	4.0
31	45	115	55	06/01/56	00	17		C	4.2
31	45	116	30	04/29/35	20	08		C	5.
31	45	116	30	04/29/35	21	49		D	4.
31	45	116	30	05/01/35	00	07		D	4.5
31	45	116	30	05/01/35	03	52		D	4.
31	45	116	30	05/01/35	06	55		D	4.
31	45	116	30	05/01/35	18	23		C	4.
31	45	116	30	05/01/35	18	25		C	4.
31	47	115	55	12/22/56	05	18	00	C	4.5
31	48	115	00	05/02/49	00	26	12	D	4.1
31	48	115	42	01/12/60	23	15	00	D	4.1
31	48	115	54	01/18/56	19	57	24	D	4.1
31	48	116	06	10/10/53	18	49	06	D	5.0
31	49	115	27	04/06/47	08	10	59	C	4.9

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
31	50	116	00	04/28/56	06	41		D	4.3
31	50	116	00	05/10/56	11	48	54	C	5.0
31	50	116	00	06/07/56	06	04		C	4.1
31	50	116	20	06/26/32	10	32	22	D	4.0
31	50	116	20	06/26/32	18	32	22	D	4.0
31	50	116	20	06/27/32	01	46	43	D	4.0
31	50	116	20	06/27/32	02	07	20	D	4.5
31	50	116	20	06/27/32	02	16	09	D	4.0
31	50	116	20	06/27/32	09	46	43	D	4.0
31	50	116	20	06/27/32	10	07	20	D	4.5
31	50	116	20	06/27/32	10	16	09	D	4.0
31	57	115	40	05/02/61	06	26	17	C	4.5
31	58	116	13	02/18/55	15	27	28	D	4.7
31	58	116	18	05/31/61	07	23	39	C	4.0
31	59	115	12	02/24/35	01	45		C	6.
31	59	115	12	02/24/35	02	10		C	4.
31	59	115	12	02/24/35	08	20		C	4.5
31	59	115	12	02/24/35	14	19		C	4.
31	59	115	12	02/24/35	17	10		C	4.
31	59	115	12	02/24/35	19	32		C	4.
31	59	115	12	02/24/35	21	33		C	4.
31	59	115	12	02/25/35	16	58		C	4.
31	59	115	12	02/26/35	17	35		C	4.
31	59	115	12	02/27/35	00	00		C	4.
31	59	115	12	02/27/35	04	46		C	4.
31	59	115	12	03/01/35	04	21		C	4.5
31	59	115	12	03/01/35	23	10		C	4.5
31	59	115	12	03/07/35	19	11		C	4.
31	59	115	12	03/22/35	03	29		C	4.
31	59	115	12	03/22/35	04	37		C	4.
31	59	115	12	04/06/35	16	41		C	4.5
31	59	115	12	04/21/35	05	31		C	4.5
31	59	115	12	04/21/35	05	35		C	4.
31	59	115	12	04/21/35	05	49		C	4.
31	59	115	12	04/21/35	06	04		C	4.
31	59	115	12	04/28/35	11	25		C	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
32		112		11/02/56	10	38	55		5.
32		113		02/02/50	10	37	24		4.2
32		113		04/12/51	06	20	10	D	4.2
32		113		07/04/57	22	25	13		4.8
32		114		10/03/35	18	59		D	4.
32		114		07/05/57	00	58	00		4.7
32		114	45	12/31/34	18	45	45		7.0
32		115		11/21/15	00	13	42		7.1
32		115		04/03/34	17	53		D	4.
32		115		07/17/34	11	38		D	4.
32		115		02/17/35	11	47		D	4.
32		115		08/14/45	02	08	24	D	4.0
32		115		08/14/45	02	20	12	D	4.4
32		115		05/04/55	13	14		D	4.0
32	00	113	00	02/03/50	15	51	31	D	4.3
32	00	113	00	02/03/50	21	22	13	D	4.3
32	00	115	00	06/04/48	07	27		D	4.6
32	00	115	00	05/28/58	07	48	18	D	4.5
32	00	115	06	01/05/56	11	15	24	D	4.1
32	00	115	12	05/18/47	00	25	31	D	4.3
32	00	115	30	02/20/45	09	35	48	D	4.0
32	00	115	30	06/21/47	08	09	37	D	4.8
32	00	115	30	06/20/51	22	35	54	D	4.3
32	00	115	42	05/30/46	16	59	38	D	4.1
32	00	116	00	07/19/54	20	01	54	D	4.8
32	00	116	22	08/20/61	12	52	46	C	4.0
32	00	117	00	04/27/42	11	27	54	D	4.
32	00	117	00	02/11/49	09	57	25	D	4.0
32	00	117	04	06/23/39	20	48		C	4.5
32	00	117	30	05/01/39	20	22		B	4.
32	00	117	30	05/01/39	23	53		B	5.
32	00	117	30	05/01/39	23	57		B	4.5
32	00	117	30	05/03/39	08	28		B	4.
32	00	117	30	05/03/39	23	58		B	4.5
32	00	117	30	06/24/39	16	27		B	5.
32	00	117	30	06/25/39	01	09		C	4.
32	00	118	30	07/15/43	21	38		D	4.
32	02	115	50	01/08/32	02	34	43	C	4.0
32	02	115	50	01/28/32	17	17	49	C	4.5
32	02	116	19	09/20/61	10	36	03	C	4.2

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
32	02	116	25	08/20/61	04	28	43	C	4.6
32	03	116	09	03/01/45	11	19	58	C	4.4
32	03	116	10	02/06/58	11	15	30	C	4.5
32	04	115	14	04/27/59	17	45	07	D	4.5
32	05	116	40	09/27/34	21	40		C	4.
32	05	116	40	11/25/34	08	18		C	5.
32	05	116	40	10/12/38	12	31		C	4.
32	05	117	00	05/10/48	03	49	25	C	4.0
32	05	117	50	09/13/40	14	45	48	B	4.5
32	06	114	18	09/13/40	11	49	57	C	5.
32	06	116	00	02/03/60	08	37	18	D	4.5
32	06	116	30	01/08/37	12	46		C	4.
32	06	116	36	01/07/50	09	37	35	D	4.0
32	07	115	17	03/16/52	19	59	15	C	4.1
32	07	115	17	03/16/52	22	11	02	C	4.5
32	07	116	05	07/09/51	09	06	22	C	4.2
32	08	115	50	06/10/61	02	17	42	C	4.1
32	10	116	25	09/17/50	19	43	30	C	4.5
32	10	117	40	10/29/35	10	17		C	4.5
32	11	118	54	02/26/48	03	59	19	C	4.0
32	11	118	54	02/27/48	06	21	31	C	4.9
32	12	112	30	06/18/61	08	12	07		4.7
32	12	115	42	10/16/54	08	05	18	C	4.0
32	12	116	12	03/03/57	11	06	03	C	4.4
32	12	116	33	11/04/49	20	42	38	C	5.7
32	12	116	33	11/05/49	04	35	24		5.1
32	12	116	33	11/05/49	20	02	07		4.0
32	12	116	33	11/06/49	23	05	10		4.0
32	12	116	33	11/11/49	13	54	00		4.2
32	15	115	10	06/03/38	14	38		C	4.
32	15	115	10	06/06/38	12	35		C	4.
32	15	115	30	12/30/34	13	52	14		6.5
32	15	115	30	12/15/57	21	16	41	C	4.6
32	15	115	40	04/29/32	16	52	33	D	4.0
32	15	115	45	12/01/58	03	21	18	B	5.8
32	15	115	45	12/01/58	03	31			4.1
32	15	115	45	12/01/58	03	40			4.0
32	15	115	45	12/01/58	03	50			5.0
32	15	115	45	12/01/58	04	26			4.8
32	15	115	45	12/01/58	06	02			5.5

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
32	15	115	45	12/01/58	06	03			4.6
32	15	115	45	12/01/58	08	43			4.1
32	15	115	45	12/02/58	00	54			4.7
32	15	115	45	12/02/58	09	57			4.3
32	15	115	45	12/02/58	11	56			4.1
32	15	115	45	12/02/58	13	58			4.2
32	15	115	45	12/03/58	19	06			4.1
32	15	115	45	12/04/58	01	42			4.2
32	15	115	45	12/06/58	03	24			4.4
32	15	115	45	12/06/58	03	31			4.5
32	15	115	45	12/08/58	00	51			4.4
32	15	115	45	12/08/58	00	52			4.5
32	15	115	45	12/09/58	19	22			4.1
32	15	115	45	12/14/58	00	07			4.2
32	15	115	45	12/15/58	06	21			4.6
32	15	115	45	12/17/58	13	30			4.3
32	15	115	45	12/19/58	15	33			4.0
32	15	115	45	12/20/58	00	06			4.3
32	15	115	45	12/20/58	00	07			4.7
32	15	115	45	12/20/58	03	05			4.5
32	15	115	45	12/23/58	06	53			4.0
32	15	115	45	12/24/58	20	27			4.0
32	15	115	45	12/25/58	01	27			4.6
32	15	115	45	03/22/61	15	11	15	C	4.0
32	16	115	42	06/11/60	21	36	56	C	4.5
32	18	115	18	02/01/54	04	23	57	D	5.2
32	18	115	18	02/01/54	04	32	02	D	5.6
32	18	115	18	02/01/54	05	10	07	D	4.6
32	18	115	18	02/01/54	13	05	29	D	5.1
32	18	115	31	07/25/57	12	32	47	C	4.3
32	18	115	42	02/28/61	21	22	54	D	4.4
32	20	115	00	04/25/55	10	43	08	D	5.2
32	20	115	45	12/15/38	00	02		C	4.
32	20	116	28	01/13/35	02	24		C	4.
32	23	116	00	01/03/56	14	24	01	C	4.7
32	24	115	06	12/07/50	05	04	54	D	4.1
32	25	115	35	01/03/36	14	07		C	4.
32	27	115	37	06/20/35	07	24		C	4.
32	27	115	37	04/17/38	03	47		C	4.
32	27	115	37	01/31/39	16	16		C	4.

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LATITUDE DEG	LATITUDE MIN	LONGITUDE DEG	LONGITUDE MIN	DATE MO DAY YR	TIME HR	TIME MIN	TIME SEC	QUALITY (ACCURACY)	MAGNITUDE
32	27	115	37	03/21/39	13	51		C	4.
32	27	115	37	03/25/39	02	59		C	4.
32	30	113	30	03/15/58	08	34	04		4.9
32	30	115		02/24/35	01	45	10		5.3
32	30	115	00	01/12/34	01	26		D	4.
32	30	115	20	02/11/34	18	01		C	4.
32	30	115	30	01/01/27	08	16	45		5.8
32	30	115	3C	02/09/61	17	50	42	D	4.8
32	30	115	30	05/06/61	01	42	12	D	4.1
32	30	115	30	05/06/61	02	08	06	D	4.1
32	30	115	40	02/12/32	02	30	21	C	4.0
32	30	115	54	06/25/41	17	15	00	D	4.
32	30	118	33	02/24/48	08	15	10	C	5.3
32	32	116	11	02/22/39	10	30		C	4.
32	32	116	11	11/12/39	18	49	00	C	4.
32	34	115	27	09/12/61	19	18	46	C	4.8
32	34	115	27	09/12/61	19	20	38	C	4.1
32	35	115	32	04/02/47	15	15	39	C	4.2
32	35	117	48	04/19/39	07	41		B	4.5
32	36	115	42	12/19/58	14	37		D	4.1
32	36	116	00	10/12/36	13	56		D	4.
32	36	116	00	10/12/36	17	07		D	4.
32	36	116	06	12/24/41	07	30		D	4.5
32	36	116	19	06/15/46	19	46	53	C	4.8
32	37	118	12	04/28/38	06	07		B	4.5
32	42	115	07	01/04/34	21	53		C	4.5
32	42	115	51	11/01/41	14	24	34	C	4.
32	43	116	02	06/01/59	16	35	36	C	4.6
32	43	117	50	11/06/50	20	55	46	B	4.4
32	44	115	26	03/17/43	00	40	44	C	4.5
32	44	115	27	04/29/40	08	48	00	C	4.
32	44	115	27	05/19/40	04	36	40	B	7.1
32	44	115	27	05/19/40	04	48	47	C	4.5
32	44	115	27	05/19/40	04	55		C	5.5
32	44	115	27	05/19/40	05	04		C	4.5
32	44	115	27	05/19/40	05	44	37	C	4.5
32	44	115	27	05/19/40	05	51	34	C	5.5
32	44	115	27	05/19/40	05	57	17	C	4.5
32	44	115	27	05/19/40	06	17	42	C	4.5
32	44	115	27	05/19/40	06	33	20	C	5.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
32	44	115	27	05/19/40	06	35	40	C	5.5
32	44	115	27	05/19/40	07	01		C	4.5
32	44	115	27	05/19/40	08	55		C	4.
32	44	115	27	05/19/40	09	18		C	4.
32	44	115	27	05/19/40	12	09	27	C	4.
32	44	115	27	05/19/40	13	06	43	C	4.
32	44	115	27	05/19/40	13	40	58	C	4.
32	44	115	27	05/19/40	15	30	33	C	4.5
32	44	115	27	05/21/40	21	30	47	C	4.
32	44	115	27	05/22/40	10	58	31	C	4.5
32	44	115	27	06/01/40	23	54	14	C	4.
32	44	115	27	06/01/40	23	59	36	C	4.5
32	44	115	27	06/07/40	05	20	58	C	4.
32	44	115	27	07/15/40	02	32	41	C	4.
32	44	115	27	10/17/40	10	18	07	C	4.
32	44	115	27	07/22/41	18	52	05	C	4.5
32	44	115	42	04/21/60	23	39	20	B	4.2
32	45	118	12	06/25/39	01	49		C	4.5
32	48	117	50	01/24/42	21	41	48	B	4.
32	49	116	12	11/22/53	08	11	38	C	4.1
32	49	118	21	12/26/51	00	46	54	B	5.9
32	50	115	40	06/14/53	04	17	28	C	5.5
32	50	115	40	06/14/53	04	29	58	C	4.8
32	50	118	45	09/13/37	22	14		B	4.
32	51	117	29	02/23/43	09	21	12	C	4.
32	52	116	12	07/04/38	21	59		C	4.
32	52	118	15	02/13/52	15	13	37	C	4.7
32	53	115	35	04/13/38	19	29		C	4.5
32	53	115	37	01/16/46	11	06	54	C	4.2
32	54	115	13	09/08/35	14	40		C	4.5
32	54	115	13	09/08/35	17	03		C	5.
32	54	115	13	10/11/35	14	06		C	5.
32	54	115	13	04/07/36	22	14		C	4.
32	54	115	13	04/07/36	22	53		C	4.5
32	54	115	13	04/08/36	18	41		C	4.
32	54	115	13	04/18/36	05	36		C	4.
32	54	115	13	06/06/38	02	42		C	5.
32	55	115	25	09/18/36	14	28		C	4.
32	55	115	25	09/18/36	14	40		C	4.5
32	55	115	25	09/18/36	14	52		C	4.

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
32	55	115	28	07/23/35	19 11	C	4.
32	56	115	25	09/18/36	15 48	C	4.
32	56	115	25	09/18/36	16 51	C	4.
32	57	116	09	10/25/42	18 59 39	C	4.
32	57	116	14	11/08/58	13 20 42	C	4.1
32	57	116	15	11/14/51	23 55 03	C	4.1
32	58	115	32	02/13/51	17 16 00	C	4.2
32	58	115	32	02/13/51	17 46 34	C	4.1
32	58	116	00	10/21/42	16 22 13	B	6.5
32	58	116	00	10/21/42	16 25 19	C	5.
32	58	116	00	10/21/42	16 26 54	C	5.
32	58	116	00	10/21/42	16 34 39	C	4.5
32	58	116	00	10/21/42	16 38 06	C	4.5
32	58	116	00	10/21/42	19 10 28	C	4.5
32	58	116	00	10/21/42	21 49 28	C	4.5
32	58	116	00	10/21/42	22 50 31	C	4.
32	58	116	00	10/22/42	11 39 51	C	4.
32	58	116	00	10/22/42	12 55 53	C	4.
32	58	116	00	10/22/42	18 13 26	C	5.
32	58	116	00	10/26/42	04 34 04	C	4.
32	58	116	00	10/29/42	15 56 00	C	4.5
32	58	116	00	10/29/42	16 21 57	C	4.5
32	58	116	00	10/29/42	17 35 52	C	4.
32	58	116	00	10/30/42	05 35 45	C	4.5
32	58	116	00	11/02/42	12 59 42	C	4.5
32	58	116	00	11/03/42	05 06 29	C	4.5
32	58	116	00	11/03/42	10 18 34	C	4.
32	58	116	00	11/07/42	04 39 06	C	4.
32	58	116	00	11/12/42	00 07 37	C	4.
32	58	116	00	11/22/42	06 39 51	C	4.
32	58	116	00	01/08/43	00 24 03	C	4.
32	58	116	00	02/24/43	01 58 31	C	4.
32	58	116	00	03/07/43	20 56 31	C	4.
32	58	116	00	03/26/43	06 29 57	C	4.
32	58	116	00	04/07/43	03 46 14	C	4.
32	58	116	00	04/27/43	03 28 33	C	4.
32	58	116	00	04/30/43	15 52 56	C	4.
32	58	116	00	08/17/43	15 50 58	C	4.
32	58	116	00	11/02/43	16 47 59	C	4.5
32	58	116	00	11/02/43	16 57 16	C	4.

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LATITUDE DEG	LATITUDE MIN	LONGITUDE DEG	LONGITUDE MIN	DATE MO DAY YR	TIME HR MIN SEC	QUALITY (ACCURACY)	MAGNITUDE
32	58	116	00	11/02/43	17 50 41	C	4.5
32	58	116	00	11/02/43	17 53 05	C	4.
32	58	116	00	11/02/43	18 01 34	C	4.
32	58	116	00	11/16/43	18 09 09	C	4.
32	58	116	00	08/20/44	11 33 10	C	4.0
32	58	116	23	10/31/42	15 07 58	C	4.
32	59	115	59	05/23/42	15 47 29	C	5.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
33		109		10/01/38	13	15		D	5.
33		109		10/08/38	08	30		D	5.
33		109		10/30/38	22	10		D	4.5
33		109		11/01/38	08	25		D	5.
33		109		11/02/38	09	00		D	5.
33		109		11/11/38	18	26		D	5.
33		109		11/26/38	23	00		D	4.
33		109		11/27/38	00	13		D	5.5
33		109		02/24/39	12	05		D	4.5
33		109		02/25/39	04	28		D	4.5
33		109		02/26/39	23	27		D	5.5
33		109		06/04/39	01	20		D	4.5
33		109		07/17/39	06	58		D	4.5
33		109		02/19/41	10	12		D	4.5
33		115		10/28/43	05	58	54	D	4.
33		126		05/20/49	22	35	31	D	4.8
33	00	115	30	12/17/55	05	17	21	B	4.3
33	00	115	30	12/17/55	06	07	29	B	5.4
33	00	115	30	12/17/55	06	17	36	B	4.1
33	00	115	30	12/17/55	06	52	03	B	4.6
33	00	115	30	12/17/55	19	05	43	B	4.3
33	00	115	32	10/25/55	17	49	42	C	4.3
33	00	115	50	01/08/46	18	54	18	C	5.4
33	00	116	19	02/26/57	21	16	52	B	4.1
33	00	123	30	05/21/48	15	38	20	D	4.8
33	02	115	53	08/27/45	11	25	20	C	4.0
33	02	116	14	09/16/61	19	49	40	C	4.4
33	02	116	14	09/20/61	05	04	10	C	4.0
33	02	116	38	07/02/57	06	56	41	B	4.1
33	03	116	01	08/26/55	05	23	22	C	4.3
33	03	116	14	08/23/61	01	00	48	B	4.7
33	03	116	16	08/22/61	23	19	34	B	4.4
33	05	115	59	03/02/34	21	30		B	4.5
33	05	115	59	12/15/37	09	58		C	4.
33	05	115	59	12/10/38	03	12		C	4.
33	05	115	59	07/13/40	16	39	23	C	4.
33	05	115	59	07/14/40	00	01	44	C	4.
33	05	115	59	07/21/40	08	36	02	B	4.5
33	06	115	24	12/05/51	15	53	14	D	4.5
33	06	115	54	04/25/57	22	05		C	4.2

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
33	06	115	54	04/25/57	22	48		C	4.1
33	06	115	54	04/25/57	22	49		C	4.2
33	06	116	27	11/23/53	13	39	07	B	4.3
33	06	116	38	02/08/52	17	40	28	C	4.0
33	07	115	34	07/27/50	09	54		C	4.1
33	07	115	34	07/27/50	11	29		C	4.8
33	07	115	34	07/27/50	12	02		C	4.2
33	07	115	34	07/27/50	22	51		C	4.5
33	07	115	34	07/28/50	03	25		C	4.7
33	07	115	34	07/28/50	16	24		C	4.0
33	07	115	34	07/28/50	17	27		C	4.7
33	07	115	34	07/28/50	17	30		C	4.1
33	07	115	34	07/28/50	17	50		C	5.4
33	07	115	34	07/28/50	17	58		C	4.8
33	07	115	34	07/28/50	18	17		C	4.2
33	07	115	34	07/28/50	18	40		C	4.0
33	07	115	34	07/28/50	19	49		C	4.2
33	07	115	34	07/28/50	21	13		C	4.1
33	07	115	34	07/29/50	00	17		C	4.5
33	07	115	34	07/29/50	14	36		C	5.5
33	07	115	34	07/29/50	15	09		C	4.5
33	07	115	34	07/29/50	17	14		C	4.3
33	07	115	34	07/29/50	18	43		C	4.7
33	07	115	34	08/01/50	08	37		C	4.8
33	07	115	34	08/14/50	19	16		C	4.7
33	07	115	34	01/24/51	07	17	01	B	5.6
33	07	115	34	01/24/51	07	33	07	C	4.0
33	07	116	07	06/18/43	16	15	46	C	4.5
33	07	116	25	06/04/40	10	35	10	B	5.
33	07	116	25	06/04/40	10	36	56	C	4.
33	07	116	25	10/21/40	06	49	33	B	4.5
33	08	115	24	06/15/55	17	35	57	C	4.0
33	08	116	00	04/28/61	06	30	20	B	4.2
33	08	116	05	05/07/36	11	47		C	4.5
33	08	116	05	02/28/40	17	28	07	B	4.5
33	08	116	05	10/06/40	18	19	53	B	4.
33	08	116	05	10/16/40	17	52	13	C	4.
33	08	116	23	01/24/57	20	54	49	B	4.6
33	08	116	29	08/18/59	21	52	22	C	4.3
33	09	116	35	12/02/35	03	19		C	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
33	28	116	35	05/12/39	19	25		B	4.5
33	28	116	38	02/20/34	10	35		B	4.
33	29	116	30	02/15/51	10	47	59	B	4.8
33	29	116	30	02/15/51	10	49	57	B	4.8
33	29	116	42	12/28/48	12	53	41	B	4.0
33	30	116	29	02/23/41	18	36	14	C	4.5
33	30	116	46	06/12/59	11	03	13	C	4.0
33	30	116	55	11/04/35	03	55		B	4.5
33	30	116	55	07/29/36	14	22		C	4.
33	30	118	15	01/15/37	18	35		B	4.
33	30	120	30	01/14/41	16	53	00	C	4.
33	31	118	06	03/22/41	08	22	40	B	4.
33	32	116	33	09/23/56	11	24	42	B	4.3
33	32	116	38	09/21/42	07	07		C	4.
33	34	117	59	04/17/34	18	33		C	4.
33	34	117	59	07/07/37	11	12		B	4.
33	35	119	11	02/10/52	13	50	55	C	4.0
33	36	118		03/11/33	01	54	08		6.3
33	36	118	01	12/25/35	17	15		B	4.5
33	37	118	02	05/21/38	09	44		B	4.
33	37	118	07	01/20/34	21	17		B	4.5
33	38	118	12	11/01/40	20	00	46	B	4.
33	38	118	24	10/17/34	09	38		B	4.
33	39	116	45	09/05/50	19	19	56	B	4.8
33	39	118	00	10/20/61	19	49	51	B	4.3
33	40	117	59	10/20/61	20	07	14	B	4.0
33	40	117	59	10/20/61	21	42	41	B	4.0
33	40	118	01	10/20/61	22	35	34	B	4.1
33	40	119	30	11/30/39	06	42	51	B	4.
33	41	117	32	05/31/38	08	34		B	5.5
33	41	117	32	07/05/38	18	06		B	4.5
33	41	117	32	08/06/38	22	00		B	4.
33	41	118	00	11/20/61	08	53	35	B	4.0
33	42	115	56	04/02/57	04	22	47	B	4.1
33	42	117	26	02/19/40	12	06	58	B	4.5
33	42	118	04	02/08/40	16	56	17	B	4.
33	42	118	04	07/18/40	04	01	13	B	4.
33	43	117	31	06/19/35	11	17		B	4.
33	43	118	42	10/29/36	22	35		C	4.
33	44	117	28	10/26/54	16	22	26	B	4.1

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
33	45	116	00	09/02/56	02	46	37	B	4.2
33	45	117		04/21/18	22	32	25		6.8
33	45	117	30	01/03/56	00	25	49	A	4.7
33	45	118	00	11/16/34	21	26		B	4.
33	46	115	59	09/01/56	05	57	53	B	4.0
33	46	117	49	08/22/36	05	21		B	4.
33	46	118	07	11/04/39	21	41	00	B	4.
33	47	116	12	10/31/43	13	12	10	C	4.5
33	47	116	17	03/04/37	16	04		B	4.0
33	47	118	08	12/27/39	19	28	49	B	4.5
33	47	118	08	01/13/40	07	49		B	4.
33	47	118	12	10/22/41	10	32	20	B	4.
33	47	118	15	11/14/41	08	41	36	A	5.5
33	47	118	25	10/11/40	05	57	13	B	5.
33	47	118	25	10/12/40	00	24	00	B	4.
33	47	118	25	10/14/40	20	51	11	B	4.
33	47	118	25	11/01/40	07	25	03	B	4.
33	47	118	25	11/02/40	02	58	26	B	4.
33	48	116	05	05/28/61	12	59	47	A	4.4
33	48	118	06	10/02/33	09	10	18		5.4
33	48	118	14	08/31/38	03	18		B	4.5
33	49	115	28	01/28/55	12	10	20	C	4.3
33	49	118	13	10/22/41	06	57	18	A	5.
33	50	117	24	06/05/40	08	27	27	B	4.
33	51	115	51	10/13/49	04	20	40	B	4.0
33	51	117	21	11/07/39	18	52	09	B	4.5
33	51	117	45	10/04/61	02	21	32	B	4.1
33	51	120	18	08/27/49	15	54	28	C	4.0
33	52	115	42	04/28/46	17	31	23	C	4.4
33	52	118	13	06/19/44	00	03	33	B	4.5
33	52	118	13	06/19/44	03	06	07	C	4.4
33	53	118	28	11/29/38	19	21		B	4.
33	54	118	36	08/31/30	00	40	36		5.3
33	55	115	42	06/04/46	12	05	24	C	4.8
33	55	116	15	08/15/46	19	01	08	C	4.0
33	55	116	20	04/17/59	16	18	57	C	4.2
33	55	116	42	11/17/43	11	28	41	C	4.5
33	55	119	30	08/26/54	13	48	03	B	4.8
33	56	116	21	12/05/48	00	40	32	A	4.4
33	56	116	22	12/05/48	00	07	21	A	4.9

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
33	56	116	23	12/04/48	23	43	17	A	6.5
33	56	116	24	12/10/48	20	42	57	A	4.4
33	56	116	45	08/06/38	02	28		B	4.
33	56	116	45	10/28/44	18	30	16	B	4.4
33	56	117	22	10/24/43	00	29	21	C	4.
33	57	115	40	08/04/59	18	25	22	C	4.1
33	57	116	44	04/26/42	15	10	23	C	4.
33	57	116	51	09/28/46	07	19		B	5.0
33	57	117	35	04/11/41	01	20	24	B	4.
33	57	118	12	01/11/50	21	41	35	B	4.1
33	58	116	20	01/02/57	07	52	15	B	4.6
33	58	116	26	12/05/48	00	42	35	A	4.6
33	58	116	27	12/11/48	16	12	20	A	4.5
33	58	116	45	06/12/44	10	45	34	A	5.1
33	58	116	45	06/12/44	11	16	35	A	5.3
33	58	116	45	06/12/44	22	21	19	B	4.2
33	58	116	48	06/10/44	11	11	50	A	4.5
33	58	116	48	06/10/44	11	15	31	B	4.0
33	58	116	48	09/07/45	15	34	24	B	4.3
33	58	118	03	01/30/41	01	34	47	A	4.
33	59	116	28	01/08/52	06	34	28	A	4.4
33	59	118	18	02/11/40	19	24	10	B	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY (ACCURACY)	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC		
34		117	15	07/23/23	07	30	26		6.3
34	00	115	45	03/03/42	01	03	24	C	5.
34	00	115	45	03/04/42	11	02	12	C	4.
34	00	116	03	12/27/48	11	19	04	C	4.0
34	00	116	23	05/05/44	13	47	15	C	4.0
34	00	116	28	12/05/48	00	50	57	A	4.4
34	00	116	28	12/06/48	02	46	08	A	4.3
34	00	116	40	09/23/49	21	44	40	B	4.0
34	00	116	42	08/25/44	07	30		C	4.2
34	00	118	25	12/07/38	03	38		B	4.
34	00	120	01	04/01/45	23	43	42	C	5.4
34	01	115	41	05/02/49	11	25	47	C	5.9
34	01	115	41	05/02/49	14	35	21	C	4.2
34	01	115	41	05/02/49	18	41	03	C	4.
34	01	115	41	05/06/49	03	26	06	C	4.1
34	01	115	41	05/10/49	04	06	33	C	4.7
34	01	115	41	05/22/49	23	21	27	C	4.0
34	01	115	41	05/25/49	17	31	46	C	4.5
34	01	115	46	05/02/49	11	24	58	C	4.6
34	01	116	29	01/13/50	05	07	19	B	4.1
34	01	116	30	07/24/47	22	10	46	A	5.5
34	01	116	30	07/24/47	22	53	41	C	4.3
34	01	116	30	07/24/47	22	54	26	C	4.9
34	01	116	30	07/25/47	00	46	31	C	5.0
34	01	116	30	07/25/47	01	56	47	C	4.6
34	01	116	30	07/25/47	05	17	52	C	4.3
34	01	116	30	07/25/47	06	19	49	C	5.2
34	01	116	30	07/25/47	07	57		C	4.2
34	01	116	30	07/25/47	16	14	53	C	4.5
34	01	116	30	07/26/47	01	24	15	C	4.2
34	01	116	30	07/26/47	02	49	41	C	5.1
34	01	116	30	07/26/47	23	04	25	C	4.5
34	01	116	30	07/26/47	23	13	51	C	4.1
34	01	116	30	07/29/47	16	36	15	C	4.2
34	01	116	30	07/30/47	05	22	17	C	4.2
34	01	116	30	08/01/47	17	01	37	C	4.1
34	01	116	30	08/08/47	06	47	45	C	4.0
34	01	117	14	02/17/52	12	36	58	B	4.5
34	01	117	30	03/19/37	01	23		B	4.
34	01	118	58	04/16/48	22	26	24	B	4.7

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUI
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
34	01	119	05	05/29/55	16	43	35	B	4.1
34	02	115	33	10/30/54	02	02	43	C	4.6
34	02	116	46	04/30/54	00	36	23	B	4.2
34	02	116	51	06/27/59	16	22	11	B	4.0
34	02	117	19	09/03/35	06	47		B	4.5
34	03	115	38	09/11/53	20	50	46	B	4.2
34	03	116	17	05/18/40	05	03	59	B	5.5
34	03	116	17	05/18/40	05	51	21	C	5.5
34	03	116	17	05/18/40	06	04	31	C	4.5
34	03	116	17	05/18/40	07	21		C	5.
34	03	116	17	05/18/40	13	47	19	C	4.5
34	03	116	17	05/19/40	02	26	02	C	4.5
34	03	116	17	05/19/40	02	27	30	C	4.5
34	03	116	17	05/19/40	03	51	45	C	4.
34	03	116	17	05/19/40	19	39	41	C	4.
34	03	116	17	05/22/40	06	31	37	C	4.
34	03	116	17	05/22/40	14	10	05	C	4.
34	03	116	17	05/27/40	03	27	27	C	4.
34	03	116	17	06/01/40	05	27	00	C	4.5
34	03	116	17	06/01/40	05	56	46	C	4.
34	03	116	17	06/01/40	06	54	28	C	4.5
34	03	116	17	06/02/40	06	13	09	C	4.5
34	03	116	17	06/06/40	22	21	14	C	4.5
34	03	116	17	06/06/40	23	48	49	C	4.
34	03	116	17	06/06/40	23	56	36	C	4.5
34	03	116	17	06/08/40	17	10	32	C	4.
34	03	116	17	06/11/40	19	51	18	C	4.5
34	03	116	17	06/14/40	21	58	50	C	4.
34	03	116	17	06/24/40	16	39	36	C	4.
34	03	116	17	08/01/40	19	31	40	C	4.
34	03	116	17	08/04/40	18	15	20	B	4.
34	03	116	26	02/08/38	07	39		B	4.
34	03	116	33	08/26/59	05	32	51	B	4.3
34	04	117	23	04/18/40	18	43	44	B	4.5
34	05	116	28	01/26/34	18	44		C	4.
34	05	116	28	03/01/42	10	46	31	C	4.
34	05	117	28	05/15/55	17	03	26	B	4.0
34	06	116	53	10/24/35	14	48		B	5.
34	06	116	53	10/24/35	14	51		C	4.5
34	06	116	53	10/24/35	14	52		C	4.5

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY (ACCURACY)	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC		
34	06	116	53	10/24/35	15 27	C	4.
34	06	117	41	01/09/34	14 10	A	4.5
34	06	117	41	01/18/34	02 14	A	4.
34	06	119	10	03/18/57	18 56 28	C	4.7
34	07	116	45	08/22/42	12 59 13	C	4.
34	07	117	20	09/22/51	08 22 39	A	4.3
34	07	117	25	02/23/36	22 20	B	4.5
34	07	117	25	02/26/36	09 33	B	4.
34	07	117	35	09/01/37	13 48	B	4.5
34	07	117	35	09/01/37	16 35	B	4.5
34	08	116	21	12/04/57	02 51 43	B	4.3
34	08	116	57	06/10/38	14 40	B	4.
34	08	117	26	06/28/60	20 00 48	B	4.1
34	08	117	32	12/27/38	10 09	B	4.
34	09	119	21	08/22/50	22 47 58	B	4.2
34	10	116	15	02/15/38	07 45	C	4.5
34	10	116	59	10/16/51	12 41 05	B	4.0
34	10	117	32	03/01/48	08 12 13	B	4.7
34	10	117	52	07/13/35	10 54	B	4.5
34	11	117	35	10/03/48	02 46 28	A	4.0
34	12	116	54	01/16/30	00 24 34		5.3
34	12	117	05	04/03/39	02 50	C	4.
34	12	122	12	10/09/52	14 46 02	D	4.6
34	13	117	28	03/25/41	23 43 41	B	4.
34	14	116	20	05/11/47	05 06 20	B	4.9
34	15	116	10	03/20/45	21 55 07	C	5.0
34	15	116	45	03/16/56	20 29 34	B	4.8
34	15	116	45	03/16/56	20 36 14	B	4.0
34	15	116	45	03/16/56	23 34 57	B	4.4
34	15	116	45	03/18/56	02 42 18	B	4.0
34	16	116	10	12/12/57	08 00 06	C	4.4
34	16	116	45	03/16/56	20 33 44	B	4.0
34	16	116	45	05/11/56	16 30 50	C	4.7
34	16	116	58	08/29/43	03 45 13	C	5.5
34	16	116	58	08/29/43	03 57 54	C	4.
34	16	116	58	08/29/43	05 16 30	C	4.
34	16	119	31	04/12/44	15 33 10	C	4.0
34	17	116	11	03/29/45	04 04 17	B	4.2
34	18	116	25	08/07/42	01 15 33	C	4.5
34	18	116	25	08/07/42	01 23 58	C	4.

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
34	18	116	25	08/07/42	01 53 14	C	4.
34	18	116	47	08/28/50	19 45 26	B	4.2
34	18	119	48	06/29/25	14 42 16		6.3
34	19	116	48	08/12/50	02 17 17	B	4.3
34	19	119	42	10/21/53	16 02 38	B	4.0
34	20	115	48	12/22/43	15 50 28	B	5.5
34	20	116	53	10/14/43	14 28 44	C	4.5
34	20	117	00	02/27/42	01 08 53	B	4.
34	20	119	35	10/02/38	18 45	C	4.
34	20	119	35	07/01/41	07 50 57	A	6.
34	20	119	35	07/01/41	08 19	B	4.0
34	20	119	35	07/01/41	08 21	B	4.0
34	20	119	35	07/01/41	08 30	B	4.0
34	20	119	35	07/01/41	08 48	B	4.0
34	20	119	35	07/01/41	08 58	B	4.0
34	20	119	35	07/01/41	09 05	B	4.0
34	20	119	35	07/01/41	09 45	B	4.0
34	20	119	35	07/01/41	10 25	B	4.0
34	20	119	35	07/01/41	18 20	B	4.0
34	20	119	35	07/01/41	23 54	B	4.5
34	20	119	35	07/02/41	22 19	B	4.0
34	20	119	35	07/03/41	19 26	B	4.0
34	20	119	35	07/12/41	16 18	B	4.5
34	20	119	35	09/08/41	03 12 45	B	4.5
34	20	119	35	09/08/41	03 14 23	B	4.
34	20	119	35	09/14/41	01 45 18	B	4.
34	20	119	35	09/15/41	01 37 02	B	4.
34	20	119	35	09/25/41	05 12 56	B	4.
34	20	119	35	11/18/41	18 08 10	C	4.
34	20	119	35	11/21/41	16 56 03	C	4.
34	21	116	17	09/20/42	16 14 14	C	4.
34	21	116	52	10/15/43	16 50 01	C	4.5
34	21	119	29	07/14/58	05 25 55	B	4.7
34	21	119	46	11/10/40	10 25 10	C	4.
34	22	119	48	08/09/56	00 08 49	B	4.0
34	22	120	23	09/09/36	04 54	C	4.
34	24	116	25	11/10/47	02 22 55	B	4.5
34	24	116	55	01/25/42	21 51 33	B	4.
34	24	116	55	02/01/42	15 15 55	B	4.
34	24	116	55	02/01/42	15 18 28	B	4.5

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
34	24	116	55	02/01/42	16 03 34	B	4.5
34	24	117	48	02/24/46	06 07 52	C	4.1
34	25	116	38	07/02/55	16 29 39	B	4.2
34	25	116	51	02/11/32	23 11 20	B	4.0
34	25	118	50	06/01/46	11 06 31	C	4.1
34	26	116	59	04/18/45	04 58 02	B	4.3
34	26	120	34	10/01/59	04 35 35	B	4.5
34	27	116	47	05/22/42	15 18 29	C	4.
34	29	118	59	09/03/42	14 06 01	C	4.5
34	29	118	59	09/04/42	06 34 33	C	4.5
34	30	118	13	08/23/52	10 09 07	B	5.0
34	30	119	07	11/17/54	23 03 51	B	4.4
34	30	119	50	11/16/58	09 34 04	C	4.0
34	30	120	30	08/26/49	16 52 32	D	4.2
34	30	120	30	08/27/49	14 51 46	D	4.9
34	30	120	48	12/24/37	11 57	D	4.
34	30	121	24	04/03/44	02 33 00	D	4.0
34	30	121	30	11/04/27	13 50 43		7.3
34	32	115	59	07/18/46	14 27 58	B	5.6
34	33	120	47	03/19/35	03 59	B	4.
34	33	120	47	11/01/36	15 10	B	4.
34	33	120	47	02/16/37	17 40	C	4.
34	33	120	47	11/22/37	04 12	C	4.5
34	33	120	47	12/03/37	15 28	C	4.
34	33	120	47	09/29/38	12 12	C	4.
34	33	120	47	10/17/39	20 42 43	C	4.
34	33	120	47	06/16/40	09 25 04	C	4.
34	35	118	36	02/07/56	02 17 56	B	4.2
34	35	118	36	02/07/56	03 16 39	B	4.6
34	35	120	20	12/17/34	11 10	B	4.5
34	35	120	20	12/18/34	03 09	C	4.
34	36	118	54	05/18/40	09 15 12	C	4.
34	37	116	00	11/09/42	20 34 25	C	4.5
34	37	119	05	02/26/50	00 06 22	C	4.7
34	40	116	40	10/01/53	19 35 14	B	4.1
34	40	118	50	01/24/50	21 56 59	C	4.0
34	40	120	30	06/13/44	08 27 32	C	4.6
34	40	120	30	06/13/44	08 46 43	C	4.0
34	40	120	30	06/13/44	11 07 24	C	4.4
34	41	119	00	04/06/43	22 36 24	C	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
34	42	120	06	07/28/45	02	33	48	D	4.2
34	42	120	15	11/18/36	18	02		C	4.5
34	43	118	58	06/11/35	18	10		B	4.
34	43	120	25	11/30/44	18	53	15	C	4.1
34	45	116	10	03/22/39	19	16		C	4.
34	45	116	28	06/01/37	15	41		C	4.
34	45	116	28	03/31/38	17	03		C	4.
34	49	119	00	11/29/36	05	54		B	4.
34	49	119	00	02/23/39	08	45		B	4.5
34	49	119	00	02/23/39	09	18		B	4.5
34	49	119	00	03/07/39	19	53		B	4.
34	49	119	00	05/08/39	02	48		B	4.5
34	50	120	35	10/16/36	15	30		C	4.
34	51	116	35	07/30/32	07	14	00	B	4.5
34	52	118	52	07/22/52	07	44	55	A	4.1
34	52	118	56	09/21/41	19	53	08	A	5.
34	52	119	01	07/21/52	21	53	09	A	4.3
34	53	116	37	09/20/49	04	14	13	A	4.1
34	53	119	02	08/20/52	08	47	47	A	4.2
34	54	118	54	10/23/16	02	44			5.5
34	54	118	57	08/01/52	13	04	30	A	5.1
34	54	119	03	07/22/52	14	30	18	A	4.3
34	54	119	16	01/11/58	23	09	15	B	4.0
34	56	116	31	04/10/47	17	12	18	A	4.4
34	56	116	31	04/10/47	22	27	23	A	4.2
34	56	116	31	04/11/47	03	32	10	A	4.3
34	56	116	31	04/11/47	18	43	40	A	4.1
34	56	116	31	04/12/47	18	04	34	A	4.0
34	56	116	31	04/12/47	23	48	52	A	4.2
34	56	116	31	04/21/47	19	15	29	A	4.4
34	56	116	31	05/22/47	04	39		A	4.0
34	56	116	33	05/04/47	02	50	39	A	4.0
34	56	116	53	04/27/32	23	35	18	B	4.0
34	56	118	59	11/15/61	05	38	55	B	5.0
34	56	119	04	02/10/54	23	58	38	A	4.5
34	57	116	32	04/10/47	17	18	22	A	5.0
34	57	116	32	04/11/47	02	07	11	A	4.1
34	57	116	57	12/18/48	23	45	17	B	4.4
34	57	118	52	07/21/52	12	19	36	A	5.3
34	57	118	57	10/16/52	12	22	07	A	4.3

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
34	57	118	58	01/15/55	01	03	07	A	4.3
34	57	119	01	11/11/52	18	12	25	A	4.1
34	58	116	33	04/10/47	16	03		A	5.1
34	58	116	33	04/10/47	17	13		B	4.3
34	58	116	33	04/10/47	18	27	59	A	4.3
34	58	116	33	04/11/47	07	47		A	5.0
34	58	116	33	04/19/47	02	29	09	A	4.7
34	58	116	33	01/03/49	13	43	40	B	4.8
34	58	116	49	08/30/50	16	59	04	C	4.2
34	58	116	56	12/30/47	19	19	14	B	4.0
34	58	116	58	11/07/58	17	38	04	B	4.1
34	58	118	57	07/30/52	11	02	55	A	4.1
34	58	118	57	11/27/52	15	36	41	A	4.0
34	58	119	00	09/02/52	20	45	56	A	4.7
34	59	116	33	04/10/47	15	58	06	A	6.2
34	59	116	33	11/17/47	14	07	10	A	4.3
34	59	118	54	07/24/52	09	50	32	A	4.3
34	59	118	54	03/23/53	17	06	37	A	4.0
34	59	118	59	05/23/54	23	52	43	A	5.1
34	59	119	02	07/21/52	23	53	28	A	4.5

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
35	00	116	13	08/18/38	07	39		C	4.5
35	00	117	00	08/01/47	15	42	30	B	4.0
35	00	117	00	08/13/47	20	08	59	B	4.3
35	00	118	44	08/23/52	06	03	03	A	4.3
35	00	118	44	04/29/53	12	47	45	A	4.7
35	00	118	50	07/23/52	07	53	19	A	5.4
35	00	118	50	07/23/52	18	13	51	A	5.2
35	00	118	50	12/01/52	05	26	10	A	4.4
35	00	119	00	07/21/52	12	05	31	D	6.4
35	00	119	00	07/21/52	12	06		D	4.8
35	00	119	00	07/21/52	12	07		D	4.7
35	00	119	00	07/21/52	12	10		D	4.5
35	00	119	00	07/21/52	12	12		D	4.6
35	00	119	00	07/21/52	12	18		D	4.4
35	00	119	00	07/21/52	12	22		D	4.9
35	00	119	00	07/21/52	12	25		D	4.7
35	00	119	00	07/21/52	12	28		D	4.2
35	00	119	00	07/21/52	12	39		D	4.2
35	00	119	00	07/21/52	12	40		D	4.9
35	00	119	00	07/21/52	12	59		D	4.2
35	00	119	00	07/21/52	13	08		D	4.5
35	00	119	00	07/21/52	13	11		D	4.1
35	00	119	00	07/21/52	13	13		D	4.5
35	00	119	00	07/21/52	13	17		D	4.0
35	00	119	00	07/21/52	13	25	12	A	4.5
35	00	119	00	07/21/52	13	36		D	4.1
35	00	119	00	07/21/52	13	59		D	4.6
35	00	119	00	07/21/52	14	06		D	4.2
35	00	119	00	07/21/52	14	15		D	4.4
35	00	119	00	07/21/52	14	17		D	4.1
35	00	119	00	07/21/52	14	42		D	4.2
35	00	119	00	07/21/52	14	51		D	4.2
35	00	119	00	07/21/52	15	36		D	4.2
35	00	119	00	07/21/52	15	42		D	4.2
35	00	119	00	07/21/52	15	53		D	4.5
35	00	119	00	07/21/52	16	17		D	4.1
35	00	119	00	07/21/52	16	38		D	4.5
35	00	119	00	07/21/52	18	00		D	4.5
35	00	119	00	07/22/52	08	21	22	A	4.1
35	00	119	00	07/22/52	13	31	43	A	4.8

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
35	00	119	00	07/22/52	17 52 36	A	4.1
35	00	119	00	07/22/52	19 10 24	D	4.1
35	00	119	00	07/23/52	00 43 08	A	4.4
35	00	119	00	07/25/52	00 03	D	4.0
35	00	119	00	08/10/52	19 44 24	A	4.1
35	00	119	01	07/21/52	11 52 14	A	7.7
35	00	119	01	05/25/53	03 24 01	A	4.8
35	00	119	01	01/12/54	23 33 49	A	5.9
35	00	119	02	07/21/52	11 54	D	4.5
35	00	119	02	07/21/52	11 55	D	4.5
35	00	119	02	07/21/52	11 57	D	4.5
35	00	119	02	07/21/52	11 58	D	4.6
35	00	119	02	07/21/52	11 59	D	4.5
35	00	119	02	07/21/52	12 02	D	5.6
35	00	119	03	09/12/52	10 35 25	A	4.5
35	00	119	05	11/07/52	08 55 35	A	4.6
35	00	121	00	03/27/47	09 16 46	D	4.2
35	01	118	59	08/17/52	09 09 07	A	4.1
35	01	119	03	08/05/53	12 20 59	A	4.3
35	02	116	52	11/10/48	23 56 13	B	4.1
35	02	118	51	10/07/53	14 59 21	A	4.9
35	02	118	55	07/23/52	21 16 58	A	4.1
35	02	118	56	07/22/52	22 31 33	A	4.7
35	02	119	00	07/22/52	10 19 39	A	4.1
35	02	119	03	07/27/52	07 16 11	A	4.1
35	02	119	03	08/07/52	16 31 51	A	4.9
35	02	119	03	08/18/52	04 40 10	A	4.7
35	02	119	06	09/02/53	15 27 56	A	4.0
35	02	119	06	01/12/54	23 40 37	B	4.1
35	02	119	06	01/13/54	01 45 31	A	4.4
35	02	119	06	02/07/54	00 09 53	B	4.4
35	03	118	54	09/25/52	16 21 36	A	4.1
35	03	118	57	08/17/52	06 14 04	A	4.0
35	03	119	08	05/23/53	07 52 55	A	4.2
35	03	119	08	08/06/53	11 20 04	A	4.4
35	03	119	10	12/14/50	13 56 23	B	4.4
35	03	119	14	08/19/52	19 12 26	A	4.5
35	04	118	37	07/23/52	23 51 36	A	4.0
35	04	118	46	07/22/52	21 02 11	A	4.2
35	04	118	53	08/14/52	11 41 46	A	4.2

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
35	19	118	30	07/24/52	14	05	26	A	4.3
35	19	118	30	07/24/52	14	10	13	A	4.0
35	19	118	30	07/25/52	13	13	09	A	5.0
35	19	118	30	07/25/52	19	09	45	A	5.7
35	19	118	30	07/25/52	19	43	23	A	5.7
35	19	118	30	07/25/52	20	06	06	A	4.8
35	19	118	30	07/26/52	01	02	21	A	4.2
35	19	118	30	07/26/52	22	58	56	A	4.3
35	19	118	30	07/27/52	00	09	16	A	4.2
35	19	118	30	07/31/52	19	05	15	A	4.0
35	19	118	30	08/01/52	21	35	22	A	4.0
35	19	118	30	08/06/52	03	46	23	A	4.3
35	19	118	30	08/10/52	12	23	17	A	4.6
35	19	118	30	08/11/52	13	21	49	A	4.4
35	19	118	30	08/13/52	04	29	39	A	4.6
35	19	118	30	08/30/52	04	56	00	A	4.7
35	19	118	30	08/30/52	04	59	55	A	4.0
35	19	118	30	09/04/52	18	06	50	A	4.4
35	19	118	30	09/15/52	04	40	13	A	4.9
35	19	118	30	10/20/52	18	14	43	A	4.3
35	19	118	30	01/20/53	08	13	22	A	4.0
35	19	118	57	09/01/52	10	39	00	A	4.1
35	20	118	28	08/09/52	10	07	32	A	4.2
35	20	118	28	12/25/52	05	56	33	A	4.1
35	20	118	32	08/01/52	10	35	56	A	4.0
35	20	118	34	08/08/52	05	17	18	A	4.0
35	20	118	36	07/23/52	16	18	38	A	4.5
35	20	118	36	07/23/52	16	48	53	A	4.5
35	20	118	36	07/31/52	12	09	09	A	5.8
35	20	118	36	08/10/52	06	01	18	A	4.0
35	20	118	36	09/16/52	14	24	54	A	4.0
35	20	118	44	08/05/52	06	50	10	A	4.4
35	20	118	55	07/29/52	19	51	32	A	4.5
35	20	118	55	07/31/52	19	53	14	A	4.5
35	20	118	55	08/07/52	19	19	07	A	4.2
35	20	118	55	08/22/52	22	41	24	A	5.8
35	20	119	15	01/20/41	13	58	16	C	4.
35	20	124	40	11/08/40	22	20	45	C	5.
35	21	117	52	07/03/44	05	38	23	B	4.7
35	21	118	58	02/04/54	20	48	41	B	4.0

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
35	22	118	30	06/20/53	23	18	52	A	4.4
35	22	118	30	07/19/55	02	04	26	B	4.1
35	22	118	32	07/23/52	19	51	34	A	4.2
35	22	118	35	07/23/52	00	38	32	A	6.1
35	22	118	35	07/23/52	00	47	38	A	4.6
35	22	118	35	07/23/52	03	19	23	A	5.0
35	22	118	35	07/23/52	04	01	40	A	4.7
35	22	118	35	07/23/52	06	26	28	A	4.0
35	22	118	35	07/23/52	06	53	42	A	4.2
35	22	118	35	07/27/52	07	35	39	A	4.2
35	22	118	35	07/28/52	15	41	20	A	4.0
35	22	118	35	09/16/52	15	21	08	A	4.3
35	22	118	39	08/24/55	17	05	41	A	4.0
35	22	118	50	03/17/35	20	26		B	4.
35	22	118	53	09/12/53	06	41	16	A	4.1
35	23	118	27	08/03/52	01	51	56	A	4.1
35	23	118	34	07/23/52	05	46	03	A	4.7
35	23	118	36	09/05/53	19	24	36	A	4.1
35	23	118	51	07/29/52	07	03	47	A	6.1
35	23	118	51	10/13/52	22	20	35	A	4.0
35	24	117	46	11/18/61	03	18	36	B	4.3
35	24	118	31	02/11/55	19	44	30	A	4.5
35	24	118	35	07/24/52	11	47	56	A	4.4
35	24	118	35	07/25/52	07	03	51	A	4.1
35	24	118	38	10/02/52	23	10	21	A	4.2
35	24	118	38	08/08/55	03	21	51	A	4.7
35	24	118	44	11/21/55	20	55	27	A	4.3
35	24	118	49	07/29/52	08	01	46	A	5.1
35	24	121	12	01/02/60	22	51	48	D	4.0
35	25	119	18	06/04/41	08	47	19	C	4.
35	26	118	42	05/01/54	22	04	39	A	4.2
35	27	119	15	01/23/35	13	52		C	4.
35	28	118	27	11/23/53	20	39	01	A	4.4
35	28	120	45	02/03/53	14	50	18	C	4.1
35	30	118	30	07/27/52	02	49	12	A	4.0
35	30	118	58	09/29/48	04	06	48	C	4.2
35	30	120	55	11/27/46	14	44	51	C	4.3
35	34	118	05	07/26/48	17	50	00	C	4.5
35	34	118	14	05/28/55	19	44	20	A	4.5
35	35	117	05	07/26/38	06	34		C	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
35	36	116	58	03/23/32	00	20	14	B	4.0
35	36	117	39	09/17/38	14	23		B	5.
35	36	120	48	06/29/42	21	07	30	D	4.
35	38	121	09	05/17/49	23	57	55	D	4.1
35	39	117	54	08/31/46	09	10	13	B	4.2
35	39	118	21	06/05/46	21	59	32	B	4.3
35	40	118	05	03/17/46	06	03	47	B	4.4
35	40	121	10	11/23/52	18	40	19	C	4.2
35	40	121	15	07/11/45	16	13	00	D	4.0
35	40	121	24	12/31/48	14	35	46	B	4.6
35	41	117	57	05/26/48	19	35	12	B	4.1
35	41	118	04	02/06/47	17	20	40	B	4.6
35	41	118	05	03/25/46	23	36	45	B	4.3
35	42	118	00	04/12/46	10	34	33	C	4.0
35	42	118	00	04/24/46	07	46		C	4.0
35	42	118	00	04/27/46	22	37	24	C	4.1
35	42	118	00	05/05/46	09	03	43	C	4.2
35	42	118	22	06/11/35	16	20		B	4.
35	42	118	22	05/03/36	14	20		C	4.
35	42	118	22	01/19/37	23	57		B	4.
35	42	121	07	07/28/35	06	00		B	4.
35	43	117	30	03/08/57	13	24	57	B	4.0
35	43	117	59	03/15/46	19	18	54	B	5.4
35	43	118	02	03/18/46	10	05	55	B	4.9
35	43	118	04	03/15/46	14	00	35	B	5.3
35	44	117	59	03/24/46	05	17	28	B	4.1
35	44	118	00	10/24/59	15	35	15	B	4.2
35	44	118	02	03/16/46	13	07	05	C	4.1
35	44	118	02	03/16/46	19	53	59	C	4.0
35	44	118	02	03/17/46	08	16	36	C	4.6
35	44	118	02	03/17/46	21	18	35	C	4.0
35	44	118	02	03/18/46	01	15	09	C	4.1
35	44	118	02	03/18/46	03	00	22	C	4.1
35	44	118	02	03/18/46	15	50	43	C	5.3
35	44	118	02	03/18/46	16	03	46	C	4.1
35	44	118	02	03/22/46	10	08	33	C	4.1
35	44	118	02	03/24/46	02	56	46	C	4.4
35	44	118	02	03/26/46	06	07	13	C	4.1
35	44	118	02	07/22/46	15	19	33	B	4.1
35	44	118	03	03/15/46	13	49	36	B	6.3

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
35	44	118	06	03/24/46	20 00 03	B	4.5
35	44	118	14	07/10/43	03 12 33	C	4.
35	44	121	12	11/22/52	07 46 37	B	6.0
35	44	121	12	11/22/52	13 37 31	B	4.0
35	45	117	59	03/15/46	13 21 01	B	5.2
35	45	118	01	03/16/46	09 46 18	B	5.1
35	45	118	02	03/15/46	21 54 33	B	5.2
35	45	119	37	04/15/50	11 56 32	C	4.6
35	45	120	15	03/10/22	11 21 20		6.5
35	46	117	56	07/11/56	19 22 06	B	4.2
35	46	118	03	01/28/61	08 12 46	A	5.3
35	46	120	15	10/31/42	10 51 13	C	4.
35	47	117	55	03/18/46	15 49 26	B	4.8
35	47	117	57	06/25/51	19 45 41	B	4.6
35	47	117	57	06/26/51	01 26 39	B	4.4
35	47	118	03	03/15/46	15 00 09	B	4.4
35	47	118	12	04/16/46	10 37 05	B	4.1
35	48	118	32	07/26/32	06 51 58	B	4.5
35	48	120	20	06/05/34	21 48	B	5.
35	48	120	20	06/05/34	22 52	C	4.
35	48	120	20	06/08/34	04 30	B	5.
35	48	120	20	06/08/34	04 47	B	6.
35	48	120	20	06/08/34	05 42	B	4.5
35	48	120	20	06/08/34	09 30	B	4.
35	48	120	20	06/08/34	23 23	B	4.
35	48	120	20	06/10/34	08 03	B	4.5
35	48	120	20	06/14/34	14 55	C	4.
35	48	120	20	06/14/34	15 54	C	4.
35	48	120	20	06/14/34	19 26	C	4.5
35	48	120	20	12/28/39	12 15 38	B	5.
35	48	121	06	06/27/49	10 35 31	D	4.5
35	48	121	12	05/15/53	03 43 18	D	4.0
35	48	121	30	12/20/48	04 42 46	C	4.5
35	49	114	38	08/11/42	10 14 02	C	4.
35	49	117	41	03/09/47	21 10 44	C	4.0
35	49	120	22	07/31/61	00 07 08	C	4.7
35	50	116	38	04/09/54	17 07 38	C	4.2
35	50	117	00	12/30/39	05 00 47	B	4.
35	50	117	46	10/19/61	05 09 44	A	5.2
35	50	118	00	02/08/35	04 22	B	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUD
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
35	50	120	45	09/07/45	11	24	20	C	4.2
35	50	121	10	11/25/52	21	59	17	C	4.3
35	52	122	07	01/29/57	21	19	53	C	4.9
35	53	116	58	11/24/53	05	46	06	B	4.9
35	53	116	58	04/17/54	10	11	40	B	4.2
35	53	120	28	12/11/56	10	56	53	C	4.1
35	53	120	30	05/28/53	03	51	13	B	4.3
35	55	119	55	07/14/47	05	40	06	C	4.0
35	56	116	52	12/19/39	20	12	09	C	4.
35	56	117	46	08/09/44	14	01	05	C	4.0
35	56	117	46	08/12/44	08	25	20	C	4.1
35	56	120	23	06/22/53	15	22	35	C	4.3
35	56	120	29	12/24/34	16	26		B	5.
35	56	120	29	01/06/35	04	04		C	4.
35	56	120	29	01/06/35	04	40		C	4.
35	56	120	29	10/22/35	18	37		C	4.
35	56	120	29	02/20/37	09	58		C	4.
35	56	120	29	11/20/38	15	30		B	4.5
35	56	120	29	05/02/39	18	49		C	4.
35	56	120	29	12/22/41	00	54	09	C	4.
35	56	120	30	10/10/58	13	05	16	B	4.5
35	57	120	28	11/16/56	03	23	09	B	5.0
35	57	121	30	12/03/34	01	54		C	4.5
35	58	117	55	09/10/37	19	34		B	4.
35	58	120	35	12/02/34	16	07		C	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
36		115		09/07/36	11	48		D	4.5
36		121		02/26/32	16	58			5.0
36		121		06/30/35	23	28		D	4.
36		121		10/25/35	20	56		D	4.
36		121		12/05/37	01	37		D	4.
36		122		06/27/32	05	17	25	D	4.0
36	00	114	48	05/04/39	20	44		C	5.
36	00	114	48	05/04/39	21	53		C	4.
36	00	114	48	05/04/39	22	36		C	4.
36	00	115	00	09/07/36	11	19		C	4.
36	00	115	00	09/20/36	08	18		C	4.
36	00	117	35	08/15/39	15	48	18	B	4.
36	00	117	44	01/07/39	20	21		B	5.
36	00	118	02	09/18/37	08	37		B	4.
36	00	120	20	03/09/54	19	55	29	C	4.0
36	00	120	55	11/02/55	19	40	06	A	5.2
36	00	120	56	03/02/55	15	59	01	B	4.8
36	01	117	56	09/16/43	00	16	11	C	4.
36	01	117	56	09/16/43	07	52		C	4.5
36	03	117	52	07/26/45	10	10	56	C	4.1
36	05	118	48	02/11/48	03	29	28	B	4.6
36	06	114	42	05/24/52	04	15	15	D	4.9
36	07	118	03	01/16/59	00	10	06	A	4.3
36	08	117	58	05/30/43	07	50		C	4.
36	09	117	57	04/24/36	19	00		B	4.
36	09	118	03	01/05/59	12	36	03	A	4.7
36	09	118	03	01/19/59	21	46	00	A	4.1
36	10	120	55	05/23/36	04	41		C	4.
36	10	120	55	02/10/46	11	01	18	C	4.8
36	10	121	32	02/22/37	18	10		C	4.
36	12	118	23	05/18/45	09	44	40	C	4.0
36	12	120	30	02/25/47	11	45	18	D	4.2
36	12	121	18	05/10/38	10	32		D	4.5
36	12	121	18	05/10/38	10	41		D	4.
36	12	121	18	05/13/38	19	34		D	4.
36	13	120	20	10/22/55	07	04	13	C	4.2
36	14	120	19	08/13/40	22	07	29	B	4.
36	14	120	39	02/05/47	06	14	00	B	5.0
36	15	117	58	06/22/42	22	13	51	B	4.
36	15	117	58	06/22/42	23	51	03	B	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
36	15	117	58	10/16/42	10	07	27	C	4.
36	18	120	30	11/30/43	21	57	18	D	4.
36	18	120	54	09/27/38	12	23		C	5.
36	18	121	18	10/03/51	14	45	14		4.2
36	18	121	18	07/23/56	08	03	48	D	4.7
36	19	121	20	10/18/56	12	32	05	C	4.0
36	21	121	07	09/21/58	07	24	55	C	4.6
36	22	118	01	12/01/39	13	05	04	B	4.
36	24	117	55	12/23/44	08	16	22	A	4.7
36	24	121	00	06/24/39	13	01		C	5.5
36	24	121	00	07/04/39	10	49		C	4.
36	24	121	00	09/20/39	02	45	29	C	4.
36	24	121	12	09/16/38	06	11		D	4.
36	26	121	29	01/11/48	05	37	28	B	4.3
36	27	121	07	10/11/59	02	03	09	C	4.1
36	28	118	00	11/17/54	07	23	57	C	4.1
36	30	115	00	11/21/39	23	40		D	4.
36	30	120	55	03/17/36	01	55		C	4.
36	30	121	00	06/16/34	23	03		D	4.
36	30	121	10	05/27/36	19	55		C	4.5
36	30	121	30	09/18/37	13	29		D	4.
36	30	121	30	09/07/40	13	02	06	D	4.5
36	30	121	35	02/17/37	03	33		C	4.5
36	31	121	10	03/27/54	15	43	31	C	4.4
36	32	121	08	11/03/60	06	50	24	B	4.1
36	33	116	10	08/30/48	19	02	21	C	4.0
36	34	121	25	06/22/54	11	49	29	A	4.4
36	34	121	25	06/22/54	12	50	04		4.3
36	35	121	10	10/22/49	21	45	20	C	4.7
36	35	121	11	07/29/51	10	53	45	B	5.0
36	35	121	17	06/07/44	12	35	38	B	4.0
36	36	116	18	03/27/61	09	00	40		4.4
36	36	121	12	06/11/48	08	28	11	D	4.0
36	36	121	14	09/28/57	21	04	39	B	4.5
36	36	121	18	04/08/42	14	20	14	A	4.0
36	36	121	22	04/28/61	01	02	52	C	4.6
36	37	121	13	08/06/51	09	05	02	B	4.9
36	38	121	15	11/03/45	15	50	22	C	4.2
36	39	121	13	01/14/42	09	44	40	B	4.2
36	39	121	14	10/19/56	12	32	03	C	4.1

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
36	40	117	51	02/09/52	08	43	30	C	4.1
36	40	118	06	07/11/36	03	47		C	4.
36	40	121	13	04/16/32	18	48	10	C	4.5
36	40	121	19	02/18/56	23	58	30	B	4.2
36	40	121	20	01/08/32	18	16	59	D	4.0
36	41	121	18	04/09/61	07	23	16	A	5.6
36	42	121	18	09/11/59	18	05	03	D	4.0
36	42	121	18	04/09/61	07	25	41	D	5.5
36	42	121	42	03/05/37	12	47		D	4.5
36	43	121	37	05/26/59	15	58	01	C	4.6
36	44	121	12	01/07/45	22	25	33	B	4.7
36	45	121	19	04/11/42	08	40	59	B	4.0
36	45	122		10/22/26	12	35	11		6.1
36	46	121	16	04/27/48	16	41	08	A	4.0
36	46	121	16	04/27/48	20	22	25	A	4.4
36	46	121	25	05/29/46	17	51	03	C	4.5
36	46	121	25	07/07/47	04	40	00	A	4.3
36	47	120	45	04/22/32	00	08	16	C	4.0
36	47	121	26	01/20/60	03	25	53	B	5.0
36	47	122	07	11/15/47	22	30	00	B	4.1
36	48	114	06	12/28/38	04	37		D	4.
36	48	116	12	01/28/59	18	09	04	C	4.0
36	48	117	06	03/25/40	21	18	18	D	4.
36	48	121	00	11/27/58	06	04	30	D	4.3
36	48	121	48	04/14/41	16	16	54	D	4.
36	49	121	22	05/17/45	15	06	47	B	4.6
36	49	121	28	05/25/53	00	23	30	B	4.0
36	49	121	31	11/23/50	13	58	24	C	4.1
36	51	121	34	03/28/48	22	38	03	A	4.6
36	51	121	47	08/05/46	04	08	44	C	4.1
36	52	121	36	12/01/56	14	11	25	B	4.4
36	52	121	40	01/04/61	00	30	17	B	4.1
36	52	121	53	11/07/58	21	33	24	B	4.3
36	53	121	25	08/10/47	21	58	00	A	4.4
36	54	121	23	09/30/50	21	26	33	B	4.1
36	54	121	25	10/30/51	19	55	14	A	4.0
36	54	121	25	10/30/51	19	59	18	B	4.2
36	54	121	25	10/31/51	20	58	19	A	4.8
36	54	121	29	12/29/59	02	32	53	B	4.7
36	54	121	37	01/01/49	01	17	54	B	4.5

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LATITUDE DEG	LATITUDE MIN	LONGITUDE DEG	LONGITUDE MIN	DATE MO DAY YR	TIME HR MIN SEC	QUALITY (ACCURACY)	MAGNITUDE
36	54	121	41	04/22/54	18 50 13	B	4.3
36	55	121	40	12/17/53	05 13 12	A	4.2
36	56	121	41	04/25/54	20 33 28	B	5.3
36	57	121	40	03/16/53	08 52 06	B	4.0
36	58	118	14	02/13/55	00 23 03	B	4.1
36	59	121	36	03/02/59	23 27 17	B	5.3
36	59	121	36	03/03/59	18 32 13	B	4.0
36	59	121	40	06/05/42	12 33 25	B	4.2

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
37		115		03/10/40	18	01	54	D	5.
37		115		03/11/40	00	06		D	4.5
37		115		04/07/40	08	42	0	D	4.5
37		117		09/21/39	09	17		D	4.
37		120		10/14/38	15	31		D	4.
37		121		12/01/38	16	17		D	4.5
37		121		09/18/41	07	33		D	4.
37		122		04/23/34	16	08		D	4.
37		122		06/18/35	04	15		D	4.
37		122		09/24/36	14	12		D	4.
37		122		10/27/37	15	53		D	4.5
37		122		11/12/37	02	50		D	4.
37		122		02/12/38	20	00		D	4.5
37		122		07/17/39	09	24		D	4.5
37		122		03/02/40	13	27		D	4.
37		122		05/28/41	06	23	18	D	4.5
37	00	114	30	01/10/55	10	07	28		4.4
37	00	121	18	02/04/42	09	08	24	D	4.
37	00	121	36	03/03/59	07	23	46	B	4.4
37	00	121	46	06/22/47	23	30	00	A	4.7
37	00	122	00	11/22/56	16	43	50	C	4.2
37	01	117	15	06/13/39	17	15		B	5.
37	01	121	29	03/09/49	12	28	39	B	5.2
37	01	121	29	03/14/49	06	10	15	B	4.4
37	04	120	35	11/01/54	06	42	40	C	4.0
37	05	117	05	06/16/51	05	52	56	C	4.5
37	05	117	30	06/14/45	03	30	13	C	5.0
37	05	117	45	02/11/49	21	05	24	C	5.6
37	05	118	00	05/01/46	17	30	10	C	4.0
37	06	113	54	11/20/55	10	57	54	D	4.3
37	06	115	48	06/06/41	19	38	48	D	4.
37	06	118	16	12/17/43	00	19	25	C	4.
37	06	118	16	12/17/43	04	38	00	C	4.
37	08	121	34	01/29/59	16	41	23	A	4.3
37	09	118	20	01/21/55	12	20	59	B	4.0
37	10	118	04	07/30/45	06	06	10	C	4.1
37	10	121	31	11/08/45	20	09	17	C	4.2
37	11	121	48	04/10/54	22	16	53	A	4.1
37	12	118	42	06/07/48	15	05	22	C	4.2
37	13	117	54	02/06/48	13	14	13	C	4.2

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
37	15	118	30	06/19/35	09 55	C	4.5
37	15	118	30	06/19/35	10 07	C	4.
37	15	118	40	10/06/36	12 33	C	4.
37	15	118	40	10/07/36	03 01	C	4.
37	15	121	40	07/09/58	05 23 40	B	4.1
37	15	121	45	07/01/11	22 00 00		6.6
37	15	122	05	06/14/32	09 44 17	D	4.5
37	16	121	43	03/24/59	02 21 13	C	4.1
37	16	121	48	08/27/45	09 13 04	C	4.5
37	18	114	18	05/06/41	03 11 42	D	4.
37	18	117	18	12/07/46	02 02 29	D	4.1
37	18	121	40	06/10/49	03 06 40	B	4.6
37	19	118	23	11/17/44	00 32 49	C	4.2
37	19	118	39	01/13/46	16 31 15	C	4.7
37	20	117	30	05/22/32	08 16 56	C	4.0
37	20	118	07	09/04/45	11 13 56	C	4.2
37	20	118	38	06/06/59	16 30 46	C	4.0
37	20	118	49	08/24/32	09 08 38	C	4.0
37	20	119	50	03/06/35	04 51	C	4.
37	20	121	41	06/22/49	18 08 46	B	4.1
37	21	114	15	11/06/43	03 55	D	4.
37	21	118	33	08/04/59	07 36 59	C	5.2
37	21	118	39	08/04/59	07 41 33	B	4.2
37	21	122	13	10/31/57	19 47 06	A	4.1
37	22	118	50	05/18/46	03 55 00	C	4.1
37	22	118	50	05/18/46	06 45 48	C	4.0
37	22	121	47	09/05/55	02 01 18	B	5.5
37	23	118	36	05/31/43	20 16 53	C	4.5
37	23	118	55	05/16/35	03 25	B	4.5
37	24	114	06	03/06/43	20 14 30	D	4.
37	25	118	35	08/17/45	20 21 14	C	4.2
37	25	118	40	02/02/61	00 07 42	C	5.1
37	25	121	20	07/29/54	08 51 36	B	4.2
37	26	121	41	10/26/43	04 50 33	B	4.9
37	27	118	35	08/06/48	04 22 57	C	4.3
37	27	118	38	02/02/61	00 04 16	B	5.3
37	27	119	00	04/03/39	07 10	C	4.
37	27	119	00	07/08/40	10 57 40	C	5.
37	28	118	22	12/09/49	08 41 18	C	4.1
37	28	118	22	12/09/49	12 39 02	C	4.6

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
37	28	118	39	08/04/59	19	12	35	C	4.0
37	29	118	35	09/28/50	11	03	22	C	4.1
37	29	121	47	10/31/58	00	26	14	A	4.2
37	29	122	24	10/15/42	13	53	56	B	4.3
37	30	113	06	01/16/43	11	50	18	D	4.
37	30	113	06	11/02/49	02	29	29	D	4.7
37	30	114	20	08/09/53	22	00	00	C	4.5
37	30	115	48	09/29/54	03	48	00	D	4.4
37	30	118	25	02/12/37	22	26		C	4.
37	30	118	32	05/10/36	17	40		C	5.
37	30	118	32	05/15/36	04	34		C	4.
37	30	118	32	05/17/39	03	42		C	4.
37	30	118	32	05/21/39	19	59		C	4.
37	30	118	32	02/24/40	09	38	00	C	4.5
37	30	118	32	05/08/41	14	53	40	C	4.
37	30	118	34	05/08/45	18	08	46	C	4.4
37	30	118	41	06/10/55	18	26	37	B	4.0
37	30	118	42	09/08/60	18	41	36	D	4.0
37	30	118	45	09/18/27	02	07	07		6.
37	30	118	46	12/03/38	17	42		B	5.5
37	30	118	46	12/03/38	17	45		B	4.
37	30	118	46	12/03/38	17	57			4.
37	30	118	46	12/03/38	18	41			4.5
37	30	118	46	12/03/38	22	17			4.
37	30	118	46	12/03/38	22	20			4.
37	30	118	46	12/04/38	18	49			4.
37	30	118	48	11/07/55	18	40	52	C	4.2
37	30	118	48	11/08/55	02	40	52		4.2
37	31	118	44	06/05/60	07	47	07	C	5.2
37	32	118	40	06/22/43	15	31	21	C	4.
37	32	118	40	06/08/44	01	11	55	C	4.0
37	33	118	34	06/18/59	00	29	40	C	4.7
37	34	118	35	12/28/51	02	49	27	B	5.2
37	34	118	44	09/14/41	16	43	32	B	6.
37	34	118	44	09/14/41	16	54	58	B	4.5
37	34	118	44	09/14/41	18	21	19	B	5.5
37	34	118	44	09/14/41	18	39	12	B	6.
37	34	118	44	09/14/41	18	54	18	B	4.
37	34	118	44	09/14/41	21	16	01	B	5.
37	34	118	44	09/27/41	19	48	37	B	4.

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
37	34	118	44	09/28/41	15 05 14	B	4.
37	34	118	44	10/23/41	20 44 31	B	4.5
37	34	118	44	10/24/41	17 48 57	B	4.
37	34	118	44	11/15/41	16 43 05	B	4.
37	34	118	44	12/18/41	20 59 00	B	4.
37	34	118	44	12/31/41	06 48 44	B	5.5
37	34	118	44	12/31/41	08 08 15	B	4.
37	34	118	44	12/31/41	11 02 25	B	4.
37	34	118	44	12/31/41	11 14 57	B	4.
37	34	118	44	12/31/41	18 05 44	B	4.5
37	34	118	44	01/01/42	03 41 01	B	4.5
37	34	118	44	02/04/42	03 21 15	B	4.
37	34	118	44	02/04/42	03 25 26	B	4.
37	34	118	44	02/04/42	03 32 03	B	4.5
37	34	118	44	02/26/42	18 32 39	B	4.
37	34	118	44	02/27/42	01 22 50	C	4.
37	34	118	44	06/05/42	03 19 38	C	4.
37	34	118	44	07/06/42	21 11 40	C	4.5
37	34	118	44	07/08/42	10 05 47	C	4.
37	34	118	44	08/20/42	11 11 48	C	4.
37	34	118	44	08/20/42	12 09 38	C	4.
37	34	118	44	08/20/42	15 26 31	C	4.
37	34	118	44	08/21/42	23 36 41	C	4.
37	34	118	44	09/07/42	19 50 11	C	4.
37	34	118	44	10/30/42	00 55 18	C	4.
37	34	118	44	12/05/42	18 52 07	B	4.5
37	34	118	44	01/01/43	22 24 17	C	4.
37	34	118	44	02/18/43	14 53 19	C	4.
37	34	118	44	11/03/43	04 23 39	C	4.
37	35	118	25	04/08/40	13 34 39	B	4.
37	35	118	28	08/22/58	23 42 02	C	4.0
37	36	115	48	07/28/38	00 00	D	4.
37	36	115	48	07/28/38	00 06	D	4.
37	36	115	48	07/28/38	00 38	D	4.5
37	36	115	48	07/28/38	06 09	D	4.
37	36	118	16	06/27/37	04 26	C	4.
37	36	118	26	01/11/47	11 57 48	C	4.4
37	36	118	30	12/31/54	16 56 53	D	4.0
37	36	122	48	10/02/34	20 20	D	4.
37	36	122	48	10/02/34	20 30	D	4.

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
37	37	121	47	04/26/43	11	54	00	A	4.1
37	38	118	18	10/30/53	07	35	45	C	4.4
37	38	118	52	07/22/40	23	00	33	B	4.5
37	38	121	52	03/29/43	11	45	55	A	4.2
37	39	122	27	03/22/57	23	14	35	A	4.4
37	39	122	29	03/23/57	00	26	55	A	4.0
37	40	114	20	09/26/61	21	46	20	D	4.3
37	40	115	20	03/30/34	16	26		C	4.5
37	40	115	20	03/30/34	18	51		D	4.
37	40	115	20	03/31/34	00	11		D	4.5
37	40	115	20	03/31/34	08	24		D	4.
37	40	115	20	03/31/34	22	13		D	4.
37	40	118	18	10/24/49	02	22	33	C	4.1
37	40	118	23	04/13/49	07	58		C	4.5
37	40	118	25	12/16/38	10	48		C	4.
37	40	118	40	08/20/54	08	00	45	C	4.4
37	40	118	40	09/22/54	07	01	55	C	4.1
37	40	122	29	03/22/57	19	44	21	A	5.3
37	41	121	36	05/02/46	01	26	12	A	4.6
37	41	121	43	04/21/43	23	39	44	A	4.2
37	41	121	46	04/15/43	15	23	04	A	4.0
37	41	121	46	04/15/43	15	31	02	A	4.1
37	42	118	28	09/25/37	12	20		C	4.
37	42	119	17	06/21/57	00	41	25	C	4.6
37	42	119	36	07/04/56	05	57	24	D	4.0
37	42	122	31	03/23/57	08	13	48	A	4.2
37	42	122	34	12/11/58	09	52	27	A	4.7
37	43	122	07	12/29/42	18	18	14	A	4.3
37	43	122	08	12/17/54	07	08	58	B	4.5
37	45	122	11	10/13/52	00	34	09	B	4.2
37	48	122	12	03/08/37	10	31		D	4.5
37	49	118	35	04/02/58	21	54	37	C	4.2
37	52	118	30	10/10/36	18	49		C	4.
37	53	118	30	03/09/37	15	41		B	4.
37	53	118	30	05/08/40	17	40	00	C	4.
37	53	122	22	10/22/52	00	45	52	B	4.0
37	54	118	00	05/03/58	17	35	57	D	4.1
37	54	118	32	04/18/35	06	07		C	4.
37	58	122	00	05/31/58	22	07	11	A	4.1
37	58	122	03	10/24/55	04	10	44	A	5.4

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
38		115		03/28/34	09	36		D	4.
38		115		04/15/34	12	09		D	5.
38		115		04/17/34	03	50		D	4.
38		115		04/17/34	14	46		D	4.
38		115	30	07/04/54	02	44	22	D	4.0
38		116		06/18/34	05	07		D	4.
38		116	30	01/26/60	04	17	36		4.9
38		117		08/03/32	05	47	25	D	4.0
38		117		01/14/36	05	30		D	4.
38		118		03/13/34	16	11		D	4.5
38		118		03/13/34	16	20		D	5.
38		118		03/19/34	10	41		D	4.5
38		118		03/23/34	22	49		D	4.5
38		118		04/02/34	08	05		D	4.5
38		118		04/18/34	02	48		D	4.
38		118		06/01/34	05	55		D	4.
38		118		06/12/34	20	27		D	4.
38		118		09/13/34	18	40		D	4.
38		118		11/30/34	19	31		D	4.
38		118		12/04/34	06	17		D	4.
38		118		12/31/34	05	51		D	4.
38		118		01/21/35	00	09		D	4.
38		118		06/06/35	19	33		D	4.
38		118		01/11/36	06	49		D	4.
38		118		01/20/36	18	32		D	4.5
38		118		03/26/36	22	43		D	4.
38		118		04/19/36	20	19		D	4.
38		118		07/02/36	01	40		D	4.
38		118		07/25/36	19	39		D	4.
38		118		10/07/36	15	01		D	4.
38		118		10/21/36	15	04		D	4.
38		118		10/26/36	12	34		D	4.
38		118		02/19/37	23	06		D	4.5
38		118		02/28/37	18	17		D	4.
38		118		08/19/37	07	03		D	4.5
38		118		03/14/38	21	21		D	4.
38		118		09/23/38	08	20		D	4.5
38		118		05/11/39	02	42		D	4.5
38		118		11/05/39	16	14		D	4.
38		118	30	01/30/34	20	16	31		6.3

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
38		121		09/19/40	08	20	18	D	4.
38		121		09/20/40	18	59		D	4.
38		123		04/18/06	13	12	00		8.3
38		124		11/30/49	08	31	45	C	4.4
38	00	118	36	08/23/37	00	32		C	4.
38	00	118	50	10/01/51	18	19	59	C	4.0
38	00	119	00	11/28/51	04	49	50	D	4.0
38	06	117	54	08/12/56	04	04	06	D	4.0
38	06	118	12	08/28/59	01	52	38	D	4.3
38	10	116	22	07/02/54	10	43	13	B	4.9
38	10	119	17	08/08/46	10	05	14	C	4.2
38	12	116	24	07/17/54	22	02	42	B	4.3
38	12	116	24	07/20/54	00	11	38	D	5.0
38	12	118	12	08/09/43	05	30	04	C	5.5
38	12	118	42	09/09/51	18	49	35	D	4.0
38	12	119	18	09/28/55	09	52	33	C	4.2
38	15	118	22	01/13/58	04	17	27	C	4.2
38	15	118	55	01/31/56	01	37	44	C	4.0
38	15	118	56	12/31/56	17	37	45	B	5.0
38	17	118	58	12/31/56	17	39	24	C	5.1
38	17	119	10	03/29/60	04	01	57	C	4.2
38	17	119	20	12/18/60	23	23	30	C	4.1
38	18	115	48	07/31/38	10	37		D	4.5
38	18	115	48	07/31/38	12	42		D	4.
38	18	116	06	07/11/42	16	41	48	D	5.
38	18	116	06	07/11/42	16	45	42	D	4.5
38	18	117	54	03/17/46	14	45	53	D	5.0
38	18	118	18	02/19/37	09	09		C	5.
38	18	119	11	03/29/60	03	31	12	C	4.0
38	20	118	40	08/08/55	10	35	35	B	5.2
38	21	118	34	03/05/59	06	41	38	C	4.2
38	22	119	35	04/09/60	04	37	55	C	4.0
38	24	118	30	02/25/42	16	12	24	D	4.
38	25	118	15	05/18/61	11	37	50	C	4.2
38	27	118	37	07/06/56	03	31	35	B	4.9
38	28	117	53	01/21/60	14	29	56	C	4.2
38	28	117	53	01/21/60	15	27	21	C	4.1
38	30	118	00	04/27/46	02	18	4	D	4.7
38	30	118	18	10/20/44	01	13	05	D	4.0
38	30	118	30	11/13/52	00	55	16	D	4.8

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
38	32	122	31	04/05/56	04 29 13	B	4.4
38	32	122	31	04/05/56	04 29 32	C	4.2
38	35	117	50	05/11/39	18 04	C	5.5
38	35	117	50	05/11/39	20 59	C	4.5
38	35	117	50	05/13/39	02 49	C	4.5
38	35	117	50	05/17/39	18 19	C	4.5
38	35	117	50	05/20/39	03 12	C	4.
38	35	117	50	07/08/40	10 04 45	C	4.5
38	35	117	58	05/12/39	07 49	C	4.
38	35	122	22	12/16/59	02 28 42	C	4.1
38	36	117	42	11/20/52	11 33 17	D	4.0
38	36	117	48	06/21/39	11 28	C	4.5
38	36	117	48	09/20/39	11 15	D	4.
38	36	118	00	11/14/52	23 24 18	D	4.2
38	36	118	00	11/14/52	23 33 07	D	4.1
38	36	118	30	08/18/42	21 55 24	D	5.
38	36	118	36	11/14/52	08 05 42	D	4.2
38	37	122	08	11/28/49	08 31 54	B	4.0
38	37	122	21	04/20/58	21 06 58	B	4.0
38	39	118	30	03/18/59	14 20 36	B	4.3
38	41	119	39	02/06/43	08 47 19	C	4.3
38	42	118	12	11/12/52	03 01 51	D	4.2
38	42	119	00	01/02/49	22 03 54	D	4.5
38	42	119	36	12/14/42	12 13 51	D	4.0
38	42	120	18	03/05/46	15 04 27	C	4.1
38	43	119	44	12/20/42	05 47 39	B	4.5
38	44	119	41	12/17/42	15 07 42	C	5.5
38	45	116	30	04/14/54	11 43 27	D	4.3
38	45	118		12/21/32	06 10 05		7.2
38	45	118		01/05/33	06 50 20		5.7
38	48	116	06	03/16/59	17 36 27	D	4.1
38	48	117	24	03/07/52	01 00 42	D	4.0
38	48	117	48	06/03/40	05 42 48	D	4.
38	48	117	54	09/12/51	14 12 30	D	4.1
38	48	120	06	08/06/37	03 23	D	4.5
38	49	119	59	03/22/53	05 19 00	A	5.0
38	49	119	59	03/22/53	14 10 25	B	4.3
38	5	119		08/25/34	13 09	D	4.
38	53	118	10	06/08/55	12 22 11	B	4.5
38	54	115	30	01/04/58	17 27 34	D	4.5

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
38	56	118	07	05/08/55	10 38 31	B	4.5
38	56	122	52	05/07/55	11 50 39	B	4.6
38	56	122	52	05/07/55	14 56 15	B	4.2
38	58	118	15	06/19/55	19 20 00	B	5.2
38	59	118	42	12/22/55	12 05 07	B	4.8
38	59	118	42	12/22/55	12 06 54	C	4.6

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY (ACCURACY)	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC		
39		116		06/07/34	20	51		D	4.
39		116		11/08/34	13	48		D	4.
39		116		11/01/38	13	52		D	4.5
39		117		04/21/34	23	18		D	4.
39		117		04/21/34	23	22		D	4.5
39		117		09/24/34	03	20		D	4.
39		117		09/25/34	07	14		D	4.
39		117		04/25/37	04	28		D	4.5
39		117		04/28/39	21	59		D	4.5
39		118		09/06/34	06	57		D	4.
39		118		10/16/34	23	12		D	4.
39		118		11/14/52	09	05	42	D	4.1
39		118		01/01/55	12	13	54		5.1
39		118		01/02/55	22	07	00		4.2
39		118		01/05/55	08	20	40		4.2
39		118		01/07/55	07	41	14		4.1
39		118		01/07/55	08	00	41		4.2
39		118		01/08/55	18	09	50		4.0
39		118		01/08/55	22	32	53		4.2
39		118		01/09/55	09	10	50		5.0
39		118		01/09/55	11	58	40	C	4.2
39		118		01/11/55	10	21	40		4.7
39		118		01/12/55	03	21	25		4.0
39		118		01/12/55	11	57	37		4.1
39		118		01/15/55	20	47	02		4.2
39		118		01/19/55	01	53	48		4.1
39		118		01/19/55	02	16			4.3
39		118		01/19/55	03	29			4.5
39		118		01/19/55	03	29	21		4.4
39		118		01/22/55	19	34	19	C	4.1
39		118		01/25/55	23	26	46		4.7
39		118		01/26/55	09	40	21		4.1
39		118		02/12/55	11	29			4.6
39		119		10/13/36	12	28		D	4.
39		119		10/20/54	19	53	52	D	4.4
39	00	118	02	12/31/55	13	51	04	B	4.5
39	00	118	30	06/19/55	19	25	16	D	5.0
39	00	119	12	01/11/39	22	00		D	5.5
39	00	119	54	03/28/48	18	26	20	D	4.6
39	02	118	04	03/08/56	07	26	20	B	4.6

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
39	04	123	02	11/10/54	18	07	21	B	4.4
39	05	118	49	06/23/59	14	35	00	B	6.1
39	05	119	57	01/22/51	15	14	53	B	4.8
39	06	117	42	11/15/52	02	29	52	D	4.3
39	06	117	42	11/15/52	04	38	10	D	4.0
39	06	118	06	01/18/58	16	33	35	D	4.4
39	06	118	10	03/30/55	09	24	28	C	4.3
39	06	118	48	06/23/59	15	04	34	D	5.5
39	06	118	48	06/23/59	15	22	45	D	4.2
39	07	118	02	02/16/55	00	46	40	B	4.1
39	07	118	47	06/23/59	14	32	35	C	4.4
39	08	118	04	12/05/56	18	05	15	B	4.1
39	10	118	07	03/13/55	21	08	27	B	4.0
39	10	118	10	06/06/55	09	20	10	C	4.3
39	11	118	07	07/03/55	17	48	21	B	4.3
39	11	118	07	12/01/55	15	31	16	C	4.0
39	11	118	07	04/09/56	04	42	25	B	4.3
39	11	122	12	12/04/43	20	13	43	C	4.0
39	11	123	41	10/31/57	02	47	46	B	4.7
39	12	117	30	07/02/36	16	29		D	5.
39	12	118	00	05/03/55	18	17	01	C	4.0
39	12	118	00	04/25/57	06	45	46	D	4.2
39	12	118	12	05/29/55	04	44	06	D	4.0
39	12	118	18	06/11/57	16	57	55	D	4.2
39	12	118	33	03/08/55	20	05	17	C	4.5
39	12	118	48	06/29/59	05	20	22	D	4.1
39	13	118	12	09/29/55	05	40	51	C	4.5
39	13	122	14	11/15/43	05	36	28	C	4.0
39	15	118	02	08/09/55	05	24	21	C	4.2
39	15	118	04	04/26/57	18	03	07	C	4.0
39	15	119		06/25/33	20	45	27		6.1
39	16	118	35	05/13/56	04	10	03	B	4.3
39	16	120	12	08/12/61	04	57	20	B	4.0
39	17	118	03	10/06/55	07	15	42	C	4.1
39	17	118	26	10/17/57	10	14	09	C	4.6
39	18	117	12	04/11/51	15	06	25	D	4.0
39	18	117	24	08/04/61	16	56	04	D	4.8
39	18	117	48	02/19/55	23	49	20	C	4.1
39	18	117	48	02/19/55	23	50	07	C	4.8
39	18	118	06	03/11/55	14	23	16	D	4.5

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
39	18	118	30	07/06/54	22 07 41	A	6.0
39	18	118	30	07/06/54	22 53	D	4.1
39	18	118	30	07/06/54	23 11 18	D	4.1
39	18	118	30	07/06/54	23 57 07	D	4.1
39	18	118	30	07/07/54	00 22 58	D	4.4
39	18	118	30	07/07/54	01 29 51	D	4.1
39	18	118	30	07/07/54	02 22 45	D	4.1
39	18	118	30	07/07/54	04 33 53	D	4.1
39	18	118	30	07/07/54	06 11 08	D	4.6
39	18	118	30	07/07/54	10 31 32	D	4.1
39	18	118	30	07/07/54	10 52 48	D	4.4
39	18	118	30	07/07/54	12 40 53	D	4.2
39	18	118	30	07/07/54	16 02 24	D	4.2
39	18	118	30	07/07/54	18 00 55	D	4.3
39	18	118	30	07/07/54	21 47 47	D	4.1
39	18	118	30	07/07/54	23 50 45	D	4.3
39	18	118	30	07/08/54	02 13 55	D	4.8
39	18	118	30	07/08/54	04 08 19	D	4.5
39	18	118	30	07/08/54	06 58 36	D	4.3
39	18	118	30	07/08/54	12 55 10	D	4.7
39	18	118	30	07/08/54	19 31 57	D	5.3
39	18	118	30	07/09/54	08 50 03	D	4.9
39	18	118	30	07/10/54	01 22 20	D	4.6
39	18	118	30	07/11/54	00 18 02	D	4.
39	18	118	30	07/11/54	07 04 00	D	4.6
39	18	118	30	07/11/54	09 58 12	D	4.6
39	18	118	30	07/12/54	10 17 06	D	4.5
39	18	118	30	07/12/54	16 05 25	D	5.1
39	18	118	30	07/16/54	11 55 20	D	4.0
39	18	118	30	07/17/54	00 02 16	D	4.2
39	18	118	30	07/17/54	01 53 11	D	4.4
39	18	118	30	07/20/54	01 41 55	D	4.1
39	18	118	30	07/20/54	15 28 12	D	4.1
39	18	118	30	07/20/54	17 56 04	D	4.
39	18	118	30	07/28/54	23 17 16	D	4.0
39	18	118	30	07/30/54	02 00 10	D	5.1
39	18	118	30	07/31/54	13 54 35	D	4.3
39	18	118	30	07/31/54	17 24 14	D	4.5
39	18	118	30	07/31/54	17 31 16	D	4.3
39	18	118	30	08/02/54	10 18 53	D	5.4

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
39	18	118	30	08/03/54	21	24	54	D	4.7
39	18	118	30	08/05/54	05	03	08	D	4.7
39	18	118	30	08/06/54	15	41	16	D	4.2
39	18	118	30	08/09/54	14	28	34	D	4.
39	18	118	30	08/10/54	06	23	10	D	4.
39	18	118	30	08/10/54	23	00	41	D	4.
39	18	118	30	08/10/54	23	04	22	D	4.
39	18	118	30	08/16/54	06	29	42	D	4.1
39	18	118	30	08/22/54	10	50	08	D	4.
39	18	119	24	03/30/43	00	00	47	D	4.2
39	18	119	48	11/25/47	18	09	00	C	4.5
39	18	120	12	09/08/47	05	52	00	B	4.5
39	18	120	12	09/08/47	07	13	00	B	4.7
39	18	122	53	08/14/52	06	47	07	C	4.0
39	19	118	12	12/16/54	11	07	13	A	7.2
39	19	118	12	12/16/54	13	15	03	B	5.0
39	19	118	28	03/10/56	14	07	56	C	4.2
39	20	118	00	03/26/55	03	51	28	B	4.2
39	20	118	03	01/28/56	22	55	26	C	4.2
39	21	118	15	01/19/55	02	10	10	C	4.6
39	22	120	09	04/07/54	07	05	02	B	4.3
39	23	118	00	11/25/55	18	26	49	C	4.2
39	23	118	03	11/25/55	16	30	01	C	4.3
39	24	118	03	12/01/55	10	24	57	C	4.3
39	24	118	06	05/28/58	15	16	50	D	4.1
39	24	118	30	04/27/57	05	39	27	D	4.2
39	25	118	00	05/30/55	21	28	26	C	4.5
39	25	118	05	11/21/55	20	25	33	C	5.5
39	25	118	05	11/21/55	20	40	35	D	4.4
39	25	118	15	03/14/55	18	23	47	C	4.7
39	25	118	32	07/06/54	11	13	20	A	6.8
39	25	118	32	07/06/54	11	27		D	4.8
39	25	118	32	07/06/54	11	41		D	4.5
39	25	118	32	07/06/54	11	49	00	D	5.7
39	25	118	32	07/06/54	12	54	00	D	4.5
39	25	118	32	07/06/54	12	56	30	D	4.9
39	25	118	32	07/06/54	13	15	11	D	5.2
39	25	118	32	07/06/54	13	36	01	D	4.5
39	25	118	32	07/06/54	14	55	15	D	4.5
39	25	118	32	07/06/54	15	51	21	D	4.4

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
39	25	118	32	07/06/54	17	38	25	D	4.2
39	25	118	32	07/06/54	17	57	37	D	4.1
39	25	118	32	07/06/54	17	57	40	D	4.3
39	25	119	47	05/09/52	15	31	32	C	5.1
39	26	118	00	04/02/55	02	22	51	C	4.2
39	26	118	05	07/04/55	12	37	13	C	4.1
39	26	120	24	03/30/43	21	07	30	C	5.3
39	27	118	01	09/10/55	19	35	34	C	4.4
39	28	118	06	02/11/55	16	12	32	B	4.7
39	28	118	07	05/21/59	17	51	40	C	4.8
39	28	120	20	05/29/54	04	20	20	C	4.1
39	30	117	30	10/23/50	08	12	46	D	4.5
39	30	117	54	12/24/59	11	24	24	D	4.2
39	30	118		12/16/54	14	16	57	B	5.8
39	30	118		12/16/54	15	09	42	B	5.1
39	30	118	00	12/15/54	06	30	40	D	4.0
39	30	118	00	12/16/54	11	11	29	D	6.9
39	30	118	00	12/16/54	11	50	36	D	5.0
39	30	118	00	12/16/54	11	57	30	D	5.0
39	30	118	00	12/16/54	14	24	1	D	5.3
39	30	118	00	12/17/54	20	28	0	D	5.0
39	30	118	00	12/18/54	01	45	38	D	4.7
39	30	118	01	04/04/55	01	36	02	C	4.1
39	30	118	02	01/17/56	18	17	56	B	4.2
39	30	118	03	11/02/55	06	15	17	B	4.6
39	30	118	05	01/13/57	19	35	29	C	4.0
39	30	118	12	03/22/55	04	06	14	C	4.4
39	30	118	30	08/24/54	05	57	46		5.2
39	30	118	30	09/09/54	09	21	10	D	4.9
39	30	118	30	10/16/54	04	32	12	D	4.3
39	30	118	30	08/04/59	05	13	20	D	4.0
39	30	120	00	08/07/44	01	18	54	D	4.2
39	31	118	06	10/06/56	14	19	17	B	4.0
39	31	118	06	02/10/59	18	03	43	C	4.3
39	32	118	05	04/13/55	11	32	57	B	4.4
39	32	118	07	03/23/59	11	49	23	C	4.2
39	32	119	59	09/26/53	03	34	29	B	5.3
39	33	118	01	03/22/55	03	15	40	B	4.4
39	33	118	27	07/26/56	09	53	17	B	5.1
39	33	120	05	12/29/48	12	53	28	B	6.0

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
39	33	120	05	01/08/49	03	39	21	B	4.3
39	33	120	05	01/20/49	07	59	23	B	4.8
39	34	118	03	03/13/55	08	41	04	B	4.6
39	34	118	24	07/22/57	17	24	01	B	4.0
39	34	118	29	12/12/55	18	16	34	C	4.0
39	34	120	18	10/01/58	21	42	11	B	4.6
39	35	118	27	08/24/54	05	51	32	A	6.8
39	35	118	27	08/24/54	06	14	50	D	4.1
39	35	118	27	08/24/54	06	32	31	D	4.4
39	35	118	27	08/24/54	06	36	02	D	4.4
39	35	118	27	08/24/54	06	54	10	D	4.3
39	35	118	27	08/24/54	14	47	18	D	4.0
39	35	118	27	08/24/54	21	20	53	D	4.4
39	35	118	27	08/25/54	02	17	13	D	4.8
39	35	118	27	08/25/54	02	49	59	D	4.
39	35	118	27	08/25/54	12	12	35	D	4.
39	35	118	27	08/25/54	22	21	10	D	4.7
39	35	118	27	08/26/54	12	44	15	D	4.2
39	35	118	27	08/26/54	12	56	15	D	4.6
39	35	118	27	08/27/54	07	05	03	D	4.0
39	35	118	27	08/28/54	04	51	34	D	4.0
39	35	118	27	08/29/54	03	09	51	D	4.2
39	35	118	27	08/29/54	03	41	06	D	4.7
39	35	118	27	08/29/54	03	58	05	D	4.8
39	35	118	27	08/30/54	11	15	58	D	4.1
39	35	118	27	08/30/54	19	11	57	D	4.1
39	35	118	27	08/30/54	19	57	19	D	4.1
39	35	118	27	08/31/54	13	34	07	D	4.0
39	35	118	27	08/31/54	22	19	29	D	4.4
39	36	116	30	02/13/52	07	05	53	D	4.7
39	36	116	41	10/17/50	03	54	12	C	4.5
39	36	117	54	09/25/55	22	11	51	C	4.1
39	36	117	54	11/10/56	20	27	53	D	4.1
39	36	117	54	08/10/60	15	43	51	D	4.0
39	36	118	01	03/23/59	07	10	20	C	6.3
39	36	118	12	08/31/54	22	20	32	D	5.8
39	36	118	12	09/01/54	05	18	46	D	5.5
39	36	118	12	09/01/54	11	29	25	D	4.3
39	36	118	12	09/04/54	04	24	22	D	4.0
39	36	118	12	09/05/54	20	15	59	D	4.4

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LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
39	36	118	12	09/08/54	07	17	30	D	4.3
39	36	118	12	09/09/54	22	31	38	D	4.4
39	36	118	12	09/14/54	16	19	02	D	4.
39	36	120	18	05/10/47	08	11	00	B	4.2
39	36	120	28	11/18/60	11	03	14	B	4.4
39	36	120	48	08/27/48	20	59	45	D	4.0
39	37	118	01	03/27/59	13	55	21	C	4.0
39	37	118	02	08/02/59	22	16	40	C	4.4
39	37	119	42	10/26/50	03	18	08	C	4.2
39	37	119	48	01/21/51	06	28	27	B	4.1
39	38	118	06	03/27/59	11	59	48	C	4.2
39	38	119	41	11/10/50	17	28	15	C	4.0
39	39	118	00	03/08/55	23	28	04	B	4.2
39	40	120	33	06/14/59	01	26	32	B	4.5
39	42	119	18	12/03/42	09	44	42	D	5.5
39	42	119	48	07/18/49	15	31	05	D	4.5
39	42	120	06	10/30/59	03	06	33	D	4.1
39	42	120	24	06/22/50	17	13	18	D	4.1
39	43	120	12	04/01/59	18	18	30	B	5.6
39	43	125	31	11/19/50	23	43	31	C	4.2
39	45	121	15	02/08/40	08	05	59		6.0
39	48	117	42	11/18/52	04	04	08	D	4.6
39	48	118	00	01/28/55	15	38	05	C	4.2
39	48	118	06	04/20/59	12	33	36	D	4.1
39	52	118	02	11/23/55	04	24	08	C	4.1
39	54	118	24	01/10/55	13	15	54	D	4.1
39	54	119	18	01/02/51	23	31	21	D	4.4
39	54	119	24	03/04/45	21	00	42	D	4.0
39	54	126	06	11/01/49	11	56	00	D	4.7

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
40		118		12/20/54	17 36 47	D	5.0
40		119		07/18/41	03 53 42	D	5.
40		121		06/06/34	22 14	D	4.5
40		121		05/01/41	13 29	D	4.5
40		124		09/12/38	06 10	D	5.5
40		124		10/18/38	05 05	D	4.5
40		124		05/01/39	21 54	D	4.5
40		124		09/27/40	17 03	D	4.5
40		124		12/20/40	23 40 42	D	5.5
40		125		08/23/31	18 01 46		5.3
40		125		06/03/36	09 16	D	5.8
40		125		02/11/41	04 51	D	4.5
40	00	116	42	12/05/50	01 11 15	D	4.2
40	00	125	00	02/08/52	04 07 37	D	4.0
40	04	120	42	02/19/51	22 36 07	B	4.2
40	05	119	40	09/21/55	07 37 28	C	4.1
40	05	120	04	12/11/50	22 29 01	C	4.1
40	05	120	04	12/14/50	09 19 59	D	4.0
40	05	120	04	12/14/50	11 02 30	D	4.0
40	05	120	04	12/14/50	13 10 38	D	4.0
40	05	120	04	12/14/50	13 24 19	B	5.6
40	05	120	04	12/14/50	16 41 11	D	4.1
40	05	120	04	12/15/50	18 01 15	D	4.4
40	05	120	04	12/17/50	01 18 44	D	4.0
40	05	120	46	10/26/52	11 36 40	B	4.3
40	06	120	12	12/14/50	08 59 34	D	5.0
40	06	120	12	12/14/50	09 29 54	D	4.8
40	06	125	18	11/02/47	07 01 00	C	4.8
40	06	126	54	06/06/59	07 46 35	D	4.3
40	07	126	07	09/20/59	23 26 45	C	4.4
40	08	118	36	07/04/61	11 09 11	B	5.0
40	08	119	40	03/19/56	15 09 23	C	4.1
40	11	124	45	04/06/61	04 04 45	C	5.1
40	12	124	18	03/27/45	17 06 47	D	4.1
40	12	124	25	09/22/52	11 41 25	C	5.2
40	12	125	06	01/18/42	07 17 17	D	4.1
40	13	123	48	11/10/56	09 06 34	B	4.1
40	13	124	25	01/14/50	19 52 30	C	4.6
40	14	126	49	02/06/51	16 33 12	B	4.8
40	14	126	49	02/06/51	17 06 35	C	4.4

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
40	15	124	16	09/08/48	04 28 13	B	4.0
40	15	124	41	12/02/58	17 43 33	C	4.3
40	15	125	15	01/02/35	22 40 58		5.8
40	16	121	14	08/21/49	20 48 16	C	4.5
40	16	123	50	03/14/57	19 27 42	B	4.0
40	16	123	59	03/27/50	19 09 28	C	4.2
40	16	124	25	08/20/59	03 48 56	C	4.2
40	16	124	31	12/22/59	02 38 57	C	4.7
40	16	124	35	09/23/58	03 50 15	B	4.4
40	16	125	38	11/25/54	11 16 35	B	6.1
40	17	124	32	02/07/55	13 49 00	B	4.3
40	17	124	48	10/08/50	12 24 19	B	4.6
40	17	124	48	10/08/51	04 10 35	C	6.0
40	18	120	36	09/27/47	07 40 00	C	4.4
40	18	124	03	05/24/58	23 04 47	A	4.9
40	18	124	14	03/10/56	05 56 14	B	4.5
40	18	124	18	03/14/47	11 36 00	C	4.0
40	18	124	18	03/10/51	08 10 17	D	4.1
40	18	124	24	01/13/50	12 18 31	D	4.3
40	18	124	24	05/19/60	10 14 07	D	4.0
40	18	124	36	12/18/46	14 20 28	C	4.7
40	18	124	48	03/27/48	21 09 36	D	4.0
40	18	124	54	01/12/44	15 02 40	D	5.1
40	18	124	54	03/17/47	08 46 00	C	4.4
40	18	125	00	05/13/41	16 01 54		6.
40	18	125	00	11/17/57	06 32 21	B	4.2
40	18	125	05	05/04/59	20 11 32	B	4.0
40	18	125	06	01/16/44	02 20 29	D	5.1
40	18	125	25	12/05/59	08 13 42	C	5.1
40	18	125	42	12/03/59	15 36 04	D	4.3
40	18	125	48	07/29/44	11 37 15	D	4.5
40	18	126	24	11/29/59	10 30 33	D	4.1
40	18	127	30	09/05/59	08 14 29	D	4.5
40	19	127	04	08/09/60	07 39 18	C	6.2
40	20	124	58	07/24/48	13 23 20	C	4.2
40	20	127	10	08/10/60	11 31 42	C	4.6
40	22	124	28	08/23/49	18 47 20	C	4.0
40	22	125	10	11/17/59	02 02 13	C	4.1
40	22	125	16	07/11/54	03 25 24	B	4.0
40	22	127	28	11/11/60	12 49 32	C	4.5

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
40	22	127	30	03/01/60	06 00 18	B	4.3
40	23	124	30	08/27/55	07 00 26	C	4.5
40	23	124	41	03/30/47	07 44 00	B	4.6
40	23	124	42	09/06/49	11 20 30	C	4.1
40	23	124	45	10/06/50	15 39 44	C	4.1
40	24	123	36	12/05/48	17 29 22	D	4.1
40	24	124	18	05/04/49	01 34 03	D	4.1
40	24	124	19	11/12/48	23 10 25	B	4.5
40	24	124	42	05/27/47	20 59 00	B	5.2
40	24	125	00	01/13/51	20 31 32	D	4.8
40	24	125	12	09/23/47	13 53 00	C	5.3
40	24	125	18	08/25/51	01 52 21	D	4.2
40	24	125	18	11/13/51	11 24 42	D	4.8
40	24	126	06	02/24/49	11 49 33	D	4.7
40	24	126	12	09/14/49	05 27 42	D	5.0
40	24	126	12	04/05/57	00 04 10	D	4.1
40	24	126	34	01/01/54	17 16 00	B	4.4
40	24	126	36	07/12/44	15 24 30	D	4.7
40	24	126	54	05/19/45	15 07 00	D	6.0
40	24	127	48	05/05/58	22 57 39	D	4.0
40	25	124	11	08/30/55	01 57 15	C	4.1
40	25	127	27	04/29/61	09 19 30	C	5.5
40	26	124	03	11/14/51	08 39 53	B	4.7
40	26	124	07	12/05/60	12 32 01	C	4.1
40	27	121	28	03/20/50	15 22 17	B	5.5
40	28	125	18	04/01/51	19 21 08	C	5.0
40	28	126	05	09/14/56	09 22 12	C	4.2
40	29	121	30	11/14/50	02 04 40	A	4.1
40	29	121	30	11/14/50	02 35 50	A	4.6
40	29	121	30	11/14/50	06 34 32	B	4.5
40	29	121	30	11/14/50	21 55 53	B	4.0
40	29	121	30	11/15/50	03 22 42	B	4.1
40	30	117	15	01/15/46	22 31 56	D	5.1
40	30	117	30	10/03/15	06 52 48		7.8
40	30	121	30	07/07/46	06 55 15	B	5.0
40	30	124		09/09/31	13 40 40		5.8
40	30	124	30	01/22/23	09 04 18		7.2
40	30	124	36	10/02/43	06 56 41	D	4.6
40	30	124	42	08/18/48	19 11 57	D	5.0
40	30	125	00	05/19/51	03 02 53	D	4.0

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
40	30	125	15	02/07/37	04 41 34		5.8
40	30	126		12/07/54	04 32 36	D	4.6
40	30	126	08	04/10/54	15 03 58	B	4.7
40	30	126	12	04/25/53	16 34 45	D	4.1
40	30	126	36	10/22/49	03 42 32	D	4.4
40	30	126	54	07/02/59	19 43 59	D	4.2
40	30	126	54	07/02/59	19 59 39	D	4.1
40	30	127	12	09/10/56	04 30 16	D	4.5
40	30	127	30	05/13/50	08 46 10	D	4.5
40	30	127	42	08/08/51	01 47 02	D	4.4
40	32	125	29	04/08/58	10 22 13	C	4.4
40	34	124	13	06/08/60	02 54 19	B	4.3
40	36	117	24	10/17/60	06 07 10	D	4.4
40	36	126	18	10/23/59	20 40 38	D	4.4
40	36	126	18	12/22/61	11 26 45	D	4.9
40	36	126	42	09/12/53	18 54 33	D	4.6
40	40	121	45	10/17/52	11 34 39	C	4.0
40	40	125	46	10/11/56	16 48 50	B	6.0
40	42	124	42	10/22/45	19 26 06	D	4.3
40	42	124	42	05/13/49	02 19 34	D	4.3
40	42	125	24	02/09/41	09 44 42		6.
40	42	125	42	07/31/47	08 16 00	C	4.4
40	42	125	48	10/11/56	17 22 30	D	4.8
40	42	125	48	10/11/56	19 38 58	D	4.3
40	42	126	24	08/30/56	05 24 52	D	5.3
40	44	126	41	04/11/54	13 17 47	C	4.0
40	45	121	33	12/24/53	07 17 39	C	4.0
40	45	124	30	06/06/32	08 44 22		6.4
40	45	125		10/03/41	16 13 08		6.4
40	45	125	48	10/11/56	17 18 19	C	4.8
40	45	125	48	10/13/56	22 55 23	C	4.3
40	45	127	26	06/28/53	12 45 13	C	4.6
40	46	124	47	06/22/54	06 24 49	B	4.2
40	47	123	52	12/30/54	09 16 13	B	4.7
40	47	125	24	01/05/59	05 15 05	C	4.0
40	48	124	24	10/06/41	06 59	D	5.
40	48	124	24	06/03/50	05 39 16	D	4.0
40	48	124	48	07/09/44	02 47 50	D	4.2
40	49	124	05	12/21/54	19 56 29	B	6.5
40	49	124	53	06/06/60	01 17 48	C	5.7

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LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
40	54	118	24	07/04/61	04 56 00	D	5.4
40	54	124	12	10/28/49	02 29 16	D	4.5
40	55	127	10	08/19/60	04 07 08	B	4.5
40	57	124	00	01/02/55	02 49 21	C	4.0

See page 11 for explanation of terms.

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
41		119		02/27/36	00	40		D	4.5
41		123		06/06/32	08	44	10	D	5.5
41		123		06/06/32	09	26	09	D	4.0
41		124		06/03/35	17	08		D	5.
41		124		07/01/38	18	13		D	5.
41		125		07/15/18	00	23	00		6.5
41		125		10/10/36	01	25		D	5.
41		125	30	01/31/22	13	17	22		7.3
41	00	124	25	11/16/52	21	29	45	C	4.1
41	00	124	54	02/19/48	08	25	09	C	4.8
41	00	125	00	02/17/48	06	01	36	D	4.0
41	00	125	12	03/29/54	13	33	38	D	4.1
41	00	127	24	10/10/60	13	43	33	D	4.0
41	01	125	12	07/15/57	23	23	47	C	4.4
41	02	116	27	11/16/56	08	26	10	B	4.7
41	06	125	19	07/24/59	03	35	54	B	4.4
41	06	126	06	04/09/52	17	11	23	D	4.8
41	08	125	14	03/23/50	13	25	10	C	4.4
41	08	125	18	07/24/59	01	23	09	B	5.8
41	10	126	18	02/09/57	16	38	07	B	5.4
41	12	118	30	06/06/56	23	50	07	D	4.0
41	12	123	30	05/02/45	19	47	54	D	5.0
41	12	124	18	02/10/50	23	41	09	D	4.0
41	12	125	12	02/27/49	13	35	47	D	4.8
41	12	126	17	02/09/57	17	38	25	B	4.7
41	15	125	40	07/24/55	22	22	30	C	4.3
41	17	125	44	06/09/50	13	07	44	C	4.8
41	18	123	24	06/02/50	10	35	51	D	4.2
41	18	123	34	07/17/54	18	55	12	B	4.2
41	18	124	42	12/19/52	21	40	21	D	4.2
41	18	125	30	10/31/59	19	42	14	D	4.5
41	18	126	00	03/24/49	20	56	56	D	5.9
41	21	125	04	12/27/60	10	56	34	C	4.0
41	27	127	19	12/26/57	12	20	35	C	4.7
41	30	119	06	01/10/56	08	37	24	D	4.1
41	30	125		06/04/25	12	02	52		6.0
41	30	125	00	11/08/44	11	08	44	C	4.7
41	30	125	56	02/23/53	07	42	51	C	4.7
41	30	127	15	06/30/55	20	29	16	D	4.0
41	31	125	03	12/27/60	10	35	26	B	5.4

See page 11 for explanation of terms.

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME			QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR	MIN	SEC	(ACCURACY)	
41	32	125	35	09/03/57	16	38	41	B	4.5
41	35	123	45	03/16/52	10	05	15	C	4.3
41	45	125	21	09/26/56	17	53	26	C	4.1
41	54	124	36	05/06/52	17	21	10	D	4.7
41	54	125	40	01/27/60	00	10	37	C	4.4
41	54	126	42	09/28/45	22	24	05	D	6.0
41	55	125	48	08/13/57	14	36	06	C	4.2
41	57	125	37	07/26/57	04	50	22	B	4.3

See page II for explanation of terms.

EARTHQUAKE EPICENTERS

1934 - 1961

LATITUDE		LONGITUDE		DATE	TIME	QUALITY	MAGNITUDE
DEG	MIN	DEG	MIN	MO DAY YR	HR MIN SEC	(ACCURACY)	
42		126	30	03/25/49	04 56 48		6.2
42	00	125	06	01/27/50	10 47 20	D	4.7
42	00	127	00	01/10/48	00 45 50	D	5.3
42	00	127	00	07/06/56	02 21 55	D	4.9
42	02	126	42	09/28/59	01 50 32	C	4.1
42	18	118	06	09/29/58	08 53 37	D	4.0
42	23	126	32	10/27/59	06 12 17	C	5.1
42	24	120	00	03/12/58	12 09 16	D	4.5
42	24	126	54	11/19/59	23 53 45	D	5.1
42	30	126	12	10/18/56	07 15 27	D	4.2
42	30	126	36	10/19/56	23 58 31	D	4.7
42	36	119	00	10/09/59	22 55 02	D	4.4
43	00	128	00	01/29/51	05 43 47	D	5.0
43	12	119	12	10/13/59	07 29 25	D	4.0
43	24	127	18	12/12/55	19 41 20	D	4.2
43	24	127	18	01/10/56	12 32 15	D	4.9
43	30	127	00	12/16/50	10 49 01	D	4.5
43	30	128		08/23/55	15 32 37	D	6.2
43	42	119	42	06/02/59	18 49 00	D	4.7
43	42	128	18	09/26/59	08 20 48	D	6.1
44	00	127	00	06/19/50	18 30 15		4.2
44	00	130	00	10/30/53	18 53 27	D	4.2
44	30	129	30	08/24/55	06 56 20	D	4.5
44	30	129	30	11/25/57	20 32 25		5.0
44	30	130	00	06/16/51	23 46 58	D	5.5
44	30	130	00	06/17/51	09 40 15	D	6.0
44	36	130	42	11/25/57	18 55 09	D	5.1
44	48	124	42	08/21/59	00 28 17	D	4.6

See page 11 for explanation of terms.

PART 2

BIBLIOGRAPHIC INDEX TO STATE FAULT MAP

BIBLIOGRAPHIC INDEX TO STATE FAULT MAP

A bibliography of the geologic maps which were used to compile the fault map is presented in the following pages. An index map to the fault map is located in the pocket on the inside of the back cover and shows the location and area boundaries for each of the geologic references. The references are represented on the index map by the symbols which accompany each item in the bibliography. The first part of each symbol, the letters, refers to the agency, professional society, or individual responsible for the reference material. The remainder of each symbol, the number, refers to the bulletin, report, or map number assigned the bibliographic material by the publisher. As a result, the numbering sequence is discontinuous even though the references are in numerical order for each publisher. Some references such as the California State geologic maps were not numbered by the publisher, but were arbitrarily assigned numbers for convenience.

The absence of faults in any area of the map does not preclude their existence; rather, the area may be unmapped, the available geologic mapping may not have revealed any faults, the exact location of known faults may be uncertain, or the fault length may be too small to be represented at the map scale of 1:500,000.

The heavy fault lines represent known active faults in the State. Whether other faults should be considered active or inactive has not been indicated because the available data are inadequate for such a determination.

Following is a list of faults of known or inferred activity to which reference is made in the text "Elementary Seismology" by Dr. C. F. Richter:

- Agua Caliente
- Big Pine
- Buena Vista
- Calaveras
- Elsinore
- Garlock
- Hayward
- Helendale
- Imperial
- Inglewood
- Manix*
- Mill Creek
- Mission Creek
- Mohawk Valley
- Nacimiento
- Newberry
- Norwalk
- San Andreas
- San Jacinto
- Santa Ynez
- Sierra
- White Wolf
- West side of Fort Sage Mountains

Seismic activity is also attributed to offshore faults in the following areas:

- Santa Barbara Channel
- San Pedro Channel
- San Miguel Island
- Santa Rosa Island
- Santa Cruz Island
- San Clemente Island
- North margin of Murray Fracture Zone
- North margin of Mendocino Fracture Zone.

The distribution of earthquake epicenters provides evidence of at least some seismic activity on numerous other faults in California. Professor David B. Slemmons of the MacKay School of Mines, University of Nevada in Reno, is presently conducting a study of the evidence of recent fault movement in the Great Basin area of California, Nevada, and Utah. Professor Slemmons has recognized numerous fault scarps in California which show evidence of geologically recent movement.

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*Several northwest-trending faults in the area of and paralleling the Manix fault show evidence of recent activity.

Key to Symbols in Bibliographic Index

DMG - Division of Mines and Geology

BR - U. S. Department of the Interior, Bureau of Reclamation

USGS - U. S. Department of the Interior, Geological Survey

GSA - Geological Society of America

AAPG - American Association of Petroleum Geologists

UC - University of California

ES - "Elementary Seismology" by C. F. Richter

SS - Seismological Society of America

DWR - Department of Water Resources

Bibliographic Index to State Fault Map

Symbol	Title
DMG-A	California State Department of Conservation, Division of Mines and Geology (formerly Department of Natural Resources, Division of Mines). Geologic Map of California, scale 1:500,000. 1938.
DMG-1	----. "Weed Sheet (preliminary copy)." By R. G. Strand. Geologic Map of California, scale 1:250,000, in preparation.
DMG-2	----. "Alturas Sheet." By T. E. Gay, Jr., and Q. A. Aune. Geologic Map of California, scale 1:250,000. 1958.
DMG-3	----. "Redding Sheet." By R. G. Strand. Geologic Map of California, scale 1:250,000. 1962.
DMG-4	----. "Westwood Sheet." By P. A. Lydon, T. E. Gay, Jr., and C. W. Jennings. Geologic Map of California, scale 1:250,000. 1960.
DMG-5	----. "Ukiah Sheet." By C. W. Jennings and R. G. Strand Geologic Map of California, scale 1:250,000. 1960.
DMG-6	----. "Chico Sheet." By J. L. Burnett and C. W. Jennings. Geologic Map of California, scale 1:250,000. 1962.
DMG-7	----. "Santa Rosa Sheet." By J. Koenig. Geologic Map of California, scale 1:250,000. 1963.
DMG-8	----. "Sacramento Sheet (preliminary copy)." By C. W. Jennings. Geologic Map of California, scale 1:250,000, in preparation.
DMG-9	----. "Walker Lake Sheet." By J. Koenig. Geologic Map of California, scale 1:250,000. 1963.
DMG-10	----. "San Francisco Sheet." By C. W. Jennings and J. L. Burnett. Geologic Map of California, scale 1:250,000. 1961.
DMG-11	----. "Santa Cruz Sheet." By C. W. Jennings and R. G. Strand. Geologic Map of California, scale 1:250,000. 1959.
DMG-12	----. "Fresno Sheet (preliminary copy)." By J. L. Burnett. Geologic Map of California, scale 1,250,000, in preparation.

See page 85 for explanation of symbols.

DMG-13 ----. "Death Valley Sheet." By C. W. Jennings. Geologic Map of California, scale 1:250,000. 1958.

DMG-14 ----. "San Luis Obispo Sheet." By C. W. Jennings. Geologic Map of California, scale 1:250,000. 1959.

DMG-15 ----. "Bakersfield Sheet (preliminary edition)." By C. J. Kundert. Geologic Map of California, scale 1:250,000. 1955.

DMG-16 ----. "Trona Sheet." By C. W. Jennings, J. L. Burnett, and B. W. Troxel. Geologic Map of California, scale 1:250,000. 1963.

DMG-17 ----. "Kingman Sheet." By C. W. Jennings. Geologic map of California, scale 1:250,000. 1961.

DMG-18 ----. "Santa Maria Sheet." By C. W. Jennings. Geologic Map of California, scale 1:250,000. 1959.

DMG-19 ----. "Los Angeles Sheet (preliminary edition)." By C. J. Kundert. Geologic Map of California, scale 1:250,000. 1955.

DMG-20 ----. "San Bernardino Sheet (preliminary copy)." Geologic Map of California, scale 1:250,000, in preparation.

DMG-21 ----. "Long Beach Sheet." By C. W. Jennings. Geologic Map of California, scale 1:250,000. 1963.

DMG-22 ----. "Santa Ana Sheet (preliminary edition)." By C. J. Kundert. Geologic Map of California, scale 1:250,000. 1955.

DMG-23 ----. "San Diego-El Centro Sheet." By R. G. Strand. Geologic Map of California, scale 1:250,000. 1963.

DMG-24 ----. "Mariposa Sheet (preliminary copy)." By R. G. Strand. Geologic Map of California, scale 1:250,000, in preparation.

DMG-25 ----. "Needles Sheet (preliminary copy)." By C. W. Jennings. Geologic Map of California, scale 1:250,000, in preparation.

DMG-118 ----. "Geologic Formations and Economic Development of the Oil and Gas Fields of California." By O. P. Jenkins, et al. Bulletin 118. 1943.

DMG-154 ----. "Geologic Guidebook of the San Francisco Bay Counties." Bulletin 154. 1953.

DMG-170A ----. "Geology of the Imperial Valley Region, California." By T. W. Dibblee, Jr. Bulletin 170. Chapter II, plate 5. 1954.

DMG-170B ----. "Geology of the Peninsular Range Province, Southern California and Baja California." By R. H. Jahns. Bulletin 170. Chapter II, plate 3. 1954.

DMG-170C ----. "Geology of the Owens Valley Region, Inyo County." By P. C. Bateman and C. W. Merriam. 1954.

DMG-171 ----. "Geology of the Southeastern Edge of the San Joaquin Valley, California." By T. W. Dibblee, Jr. Bulletin 171, plate 1. 1955.

DMG-179 ----. "Geologic Reconnaissance of the Northern Coast Ranges and Klamath Mountains, California." By W. P. Irwin. Bulletin 179. 1961.

DMG-181 ----. "Geologic Guide to Gas Fields of Northern California." By O. E. Bowen and others. Bulletin 181. 1962.

DMG-JM29 ----. "Economic Geology of Portions of Del Norte and Siskiyou Counties, Northernmost California." By J. H. Maxon. California Journal of Mines and Geology. Vol. 29, Nos. 1 and 2, plate 4. 1933.

BR-1 U. S. Department of the Interior, Bureau of Reclamation. "Pajaro River Basin, California, Water Resources and Utilization, Appendix II." Unpublished report. 1952.

USGS-24 U. S. Department of the Interior, Geological Survey. "The Geology of the Pearland Quadrangle, California." By L. F. Noble. Geological Survey Geologic Quadrangle Map No. GQ-24. 1953.

USGS-88 ----. "Geology of the Hayward Quadrangle, California." By G. D. Robinson. Geological Survey Geologic Quadrangle Map GQ-88. 1956.

USGS-170 ----. "Geology of the Castle Butte Quadrangle." By T. W. Dibblee, Jr. Geological Survey Mineral Investigations Map MF-170. 1958.

USGS-219 ----. "Geologic Map of the Mojave Quadrangle, California." By T. W. Dibblee, Jr. Geological Survey Mineral Investigations Map MF-219. 1959.

USGS-222 ----. "Geology of the Alpine Buttes Quadrangle, California." By T. W. Dibblee, Jr. Geological Survey Mineral Investigations Map MF-222. 1959.

USGS-227 ----. "Geologic Map of the Shadow Mountains Quadrangle, Los Angeles and San Bernardino Counties, California." By T. W. Dibblee, Jr. Geological Survey Mineral Investigations Map MF-227. 1960.

USGS-229 ----. "Geologic Map of the Victorville Quadrangle, California." By T. W. Dibblee, Jr. Geological Survey Mineral Investigations Map MF-229. 1960.

USGS-232 ----. "Geologic Map of the Apple Valley Quadrangle, California." By T. W. Dibblee, Jr. Geological Survey Mineral Investigations Map MF-232. 1960.

USGS-239 ----. "Areal and Engineering Geology of the Oakland West Quadrangle, California." By D. H. Radbruch. Geological Survey Geologic Map I-239. 1957.

USGS-272 ----. "Geology of the San Francisco North Quadrangle, California." By J. Schlocker, M. G. Bonilla, and D. H. Radbruch. Geological Survey Miscellaneous Geologic Map I-272. 1958.

USGS-273 ----. "Geology and Mineral Resources of the Ivanpah Quadrangle, California." By D. F. Hewett. Geological Survey Professional Paper 273. 1956.

USGS-285 ----. "Geology and Base-Metal Deposits of West Shasta Copper-Zinc District." By A. R. Kinkel, W. E. Hall, and J. P. Albers. 1956.

USGS-1000 ----. "Geology and Ground Water Resources of the Santa Maria River Valley Area, Santa Barbara County, California." By G. F. Worts, Jr. Geological Survey Water Supply Paper 1000. 1951.

USGS-1107 ----. "Geology and Ground Water Resources of the Santa Ynez River, Santa Barbara County, California." By J. E. Upson and others. Geological Survey Water Supply Paper 1107. 1952.

USGS-1108 ----. "Geology and Ground Water Resources of the South Coast Basins of Santa Barbara County." By J. E. Upson and others. Geological Survey Water Supply Paper 1108. 1951.

USGS-1109 ----. "Ground Water Geology of the Coastal Zone, Long Beach--Santa Ana Area, California." By J. F. Poland and others. Geological Survey Water Supply Paper 1109. 1956.

USGS-1110B ----. "Ground Water in the Cuyama Valley." By J. E. Upson and G. F. Worts, Jr. Geological Survey Water Supply Paper 1110B. 1951.

USGS-1254 ----. "Geology and Ground Water Features of the Smith River Plain, Del Norte County, California." By W. Back. Geological Survey Water Supply Paper 1254. 1957.

USGS-1427 ----. "Geology and Ground Water in the Santa Rosa and Petaluma Valley Areas, Sonoma County, California." By G. T. Cardwell. Geological Survey Water Supply Paper 1427. 1958.

USGS-1461 ----. "Geology, Hydrology, and Chemical Character of the Ground Waters in the Torrance--Santa Monica Area, Los Angeles County, California." By J. F. Poland. Geological Survey Water Supply Paper 1461. 1959.

USGS-1462 ----. "Geology and Ground Water Features of Scott Valley, Siskiyou County, California." By S. Mack. Geological Survey Water Supply Paper 1462. 1959.

USGS-1464 ----. "Ground Water Resources and Usable Ground Water Storage Capacity of Part of Solano County, California." By H. G. Thomasson, Jr. and others. Geological Survey Water Supply Paper 1464. 1960.

USGS-1470 ----. "Geology and Ground Water Features of the Eureka Area, Humboldt County, California." By R. E. Evenson. Geological Survey Water Supply Paper 1470. 1959.

USGS-1471 ----. "Hydrology of the Long Beach--Santa Ana Area, California." By J. F. Poland and others. Geological Survey Water Supply Paper 1471. 1959.

USGS-1484 ----. "Geology and Ground Water Features of Shasta Valley, Siskiyou County, California." By S. Mack. Geological Survey Water Supply Paper 1484. 1960.

USGS-1491 ----. "Geology and Ground Water Features of the Butte Valley Region, Siskiyou County, California." By P. E. Wood. Geological Survey Water Supply Paper 1491. 1961.

USGS-1495 ----. "Geology and Ground Water in Napa and Sonoma Valleys, Napa and Sonoma Counties, California." By F. Kunkel and J. E. Upson. Geological Survey Water Supply Paper 1495. 1960.

USGS-DV ----. "Geology and Ground Water in the Furnace Creek Wash Area, Death Valley National Monument, California." By M. A. Pistrang and F. Kunkel. Geological Survey Water Report. 1958.

USGS-SB	----. "Geologic and Hydrologic Features of the San Bernardino Area, California, with Special Reference to Underflow Across the San Jacinto Fault." By L. C. Dutcher and A. A. Garrett. Geological Survey Water Supply Paper 1419, in preparation.
USGS-CC	----. "Data on Water Wells in Coyote, Cronise, Soda and Silver Lake Valleys, San Bernardino County, California." By F. Kunkel. Geological Survey Report prepared in cooperation with the California Department of Water Resources. 1955.
USGS-CS	----. "Data on Water Wells in Cuddeback, Superior, and Harper Valleys, San Bernardino County, California." By F. Kunkel. Geological Survey Report prepared in cooperation with the California Department of Water Resources. 1956.
USGS-SCI	----. "Geologic Reconnaissance of San Clemente Island." By F. H. Olmstead. Geological Survey Bulletin 1071-B. 1955.
USGS-RB	----. "Map of Redlands--Beaumont Area, California, Showing Well Locations and Water Level Contours for March 1955." By W. L. Burnham and L. C. Dutcher. Geological Survey open file report. 1956.
USGS-MC	----. "Geology and Ground Water Hydrology of the Mill Creek Area, San Bernardino County, California." By L. C. Dutcher and W. L. Burnham. Geological Survey Water Supply Paper, in preparation.
USGS-ER	----. "Geology and Ground Water in the Russian River Valley Area and in Round, Laytonville, and Little Lake Valleys, Sonoma and Mendocino Counties, California." By G. T. Cardwell. Geological Survey Water Supply Paper, in preparation.
USGS-MV	----. "Data on Water Wells and Springs in Morongo Valley and Vicinity, San Bernardino and Riverside Counties, California." By J. S. Bader and W. R. Moyle. Geological Survey Report prepared in cooperation with the California Department of Water Resources. 1958.
USGS-LJ	----. "Data on Water Wells in Lucerne, Johnson, Fry and Means Valleys, San Bernardino County, California." By F. S. Riley. Geological Survey Report prepared in cooperation with the California Department of Water Resources. 1956.
GSA-1	Allen, C. R. "San Andreas Fault Zone in San Gorgonio Pass, Southern California." Geological Society of America Bulletin. Vol. 68, No. 3. 1957.

GSA-2 Clark, L. D. "Foothills Fault System, Western Sierra Nevada, California." Geological Society of America Bulletin. Vol. 71, No. 4. 1960. Also Personal Communication, September 16, 1961.

GSA-3 Grose, L. T. "Rocks and Structure of the Northeast Part of the Soda Mountains, San Bernardino County, California." Geological Society of America Bulletin. Vol. 70, No. 12. 1959.

GSA-4 Pakiser, L. C. and others. "Geophysical Investigation of Mono Basin, California." Geological Society of America Bulletin. Vol. 71, No. 4. 1960

AAPG-1 Jennings, C. W. "Capay Valley-Willow Springs, Westside Sacramento Valley." Northern California Geological Society and American Association of Petroleum Geologists Spring Field Trip Map. 1954.

AAPG-13 Fox, L. S. "Structural Features of the Eastside of the San Joaquin Valley, California." American Association of Petroleum Geologists Bulletin. Vol. 13, No. 2. 1929.

UC-1 Halsey, J. H. "Geology of Parts of the Bridgeport Quadrangle, California." University of California unpublished thesis. 1951.

UC-1 Curtis, G. W. "Geology of Ebbetts Pass and Topaz Lake Quadrangles, California." University of California unpublished thesis. 1951.

UC-1 Slemmons, D. B. "Geology of the Sonora Pass Region." University of California unpublished thesis. 1953.

ES-1 Richter, C. F. "Elementary Seismology." W. H. Freeman and Company. Chapter 27, figure 27-5, 27-5A. 1958.

ES-2 ----. "Elementary Seismology." W. H. Freeman and Company. Chapter 28. Figures 28-8, 28-15, 28-15A, 28-15B, 28-15C, 28-22. 1958.

SS-1 Steinbrugge, K. V. and Moran, D. F. "An Engineering Study of the Southern California Earthquake of July 21, 1952, and Its Aftershocks." Bulletin of the Seismological Society of America. Vol. 44, No. 2-b. 1954.

SS-2 Wilt, J. W. "Measured Movement Along the Surface Trace of an Active Fault in the Buena Vista Hills, Kern County, California." Bulletin of the Seismological Society of America. Vol. 48, No. 2, p. 170, Fig. 1. 1958.

SS-3 Ulrich, F. P. "The Imperial Valley Earthquakes of 1940." Bulletin of the Seismological Society of America. Vol. 31, No. 1, Fig. 20. 1941.

DWR-5 California State Department of Water Resources. "Santa Cruz--Monterey Counties Investigation." Bulletin No. 5. Appendix B, plate C-1. 1955.

DWR-7 ----. "Santa Clara Valley Investigation." Bulletin No. 7. Appendix C, plate C-1. 1955.

DWR-12 ----. "Ventura County Investigation." Bulletin No. 12. Vol. II. 1956.

DWR-13U ----. "Alameda County Investigation." Bulletin No. 13. 1963.

DWR-15 ----. "Santa Ana River Investigation." Bulletin No. 15. 1959.

DWR-18 ----. "San Luis Obispo County Investigation." Bulletin No. 18. 1958.

DWR-20 ----. "Interim Report Cache Creek Investigation." Report to the State Water Resources Board. Bulletin No. 20. 1958.

DWR-28 ----. "Economic Aspects of a Salt Water Barrier Below Confluence of Sacramento and San Joaquin Rivers." Bulletin No. 28. 1931.

DWR-63 ----. "Sea Water Intrusion in California." Bulletin No. 63. Appendix A, part III. 1960.

DWR-72 ----. "San Dieguito Investigation." Bulletin No. 72. 1959.

DWR-74-2 ----. "Recommended Minimum Water Well Construction and Sealing Standards for the Protection of Ground Water Quality, Alameda County." Bulletin No. 74-2. 1962.

DWR-75 ----. "Water Quality and Water Quality Problems, Ventura County." Bulletin No. 75. 1957.

DWR-90 ----. "Clear Lake--Cache Creek Basin Investigation. Bulletin No. 90. 1961.

DWR-91-1 ----. "Data on Wells in the West Part of the Middle Mojave Valley Area, San Bernardino County, California. U. S. Geological Survey cooperative investigation. By R. W. Page and others. Bulletin No. 91-1. 1960.

DWR-91-2 ----. "Data on Wells and Springs in Yucca Valley--Twentynine Palms Area, San Bernardino and Riverside Counties, California." U. S. Geological Survey cooperative investigation. By J. S. Bader and W. R. Moyle, Jr. Bulletin No. 91-2. 1960.

DWR-91-3 ----. "Data on Water Wells in the Eastern Part of the Middle Mojave Valley Area, San Bernardino County, California." U. S. Geological Survey cooperative investigation. By R. W. Page and W. R. Moyle, Jr. Bulletin No. 91-3. 1960.

DWR-91-4 ----. "Data on Water Wells in Willow Springs, Gloster, and Chaffee Areas, Kern County, California." U. S. Geological Survey cooperative investigation. By F. Kunkel and others. Bulletin No. 91-4. 1960.

DWR-91-5 ----. "Data on Water Wells in the Dale Valley Area, San Bernardino and Riverside Counties, California." U. S. Geological Survey cooperative investigation. By W. R. Moyle, Jr. Bulletin No. 91-5. 1961.

DWR-98 ----. "Northeastern Counties Ground Water Investigation." By R. S. Ford and others. Bulletin No. 98. Vol. II. 1963.

DWR-99 ----. "Reconnaissance Engineering Geology Report on Upper Putah Creek Basin Investigation." By R. S. Ford and R. G. Scott. Bulletin No. 99. 1962.

DWR-104 ----. "Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County." By R. G. Thomas and others. Bulletin No. 104. Appendix A, plates 1, 3A and 3B. 1961.

DWR-GL ----. "Ground Water Geology of Goose Lake Valley, Modoc County, California." By R. S. Ford. Unpublished office report. 1962.

DWR-SV ----. "Ground Water Geology of Surprise Valley, Modoc and Lassen Counties, California." By T. I. Iwamura. Unpublished office report. 1962.

DWR-BV ----. "Ground Water Geology of Big Valley Area, Modoc and Lassen Counties, California." By W. R. Hail. Unpublished office report. 1962.

DWR-MP ----. "Ground Water Geology of Madeline Plains, Modoc and Lassen Counties, California." By T. I. Iwamura. Unpublished office report. 1962.

DWR-SHM ----. "Ground Water Geology of Sierra, Mohawk, and Humbug Valleys, Plumas and Sierra Counties, California." By R. S. Ford. Unpublished office report. 1962.

DWR-FRV ----. "Ground Water Geology of Fall River Valley, Shasta and Lassen Counties, California." By A. A. Swanson. Unpublished office report. 1962.

DWR-S ----. "Ground Water Geology of Secret Valley, Lassen County, California." By W. R. Hail. Unpublished office report. 1961.

DWR-HL ----. "Ground Water Geology of Honey Lake Valley, Lassen County, California." By W. R. Hail. Unpublished office report. 1962.

DWR-WC ----. "Areal Geology of Willow Creek Valley." By W. R. Hail. Unpublished office report. 1961.

DWR-PC ----. "Interim Report Cache Creek Investigation." By C. R. McClure and P. J. Lorens. Unpublished office report. 1955.

DWR-WQ4 ----. "Ground Water Occurrence and Quality, Colorado River Basin Region." Water Quality Investigations Report No. 4. By E. C. Marliave. Unpublished office report. 1954.

DWR-DC ----. "Seismicity in California as Related to the Design of Hydraulic Structures." Division of Design and Construction, Phase V Report. By R. C. Richter. Unpublished office report. 1959.

DWR-ACW ----. "Investigations of Chemical Quality of Surface Water, Waste Discharges, and Ground Water, Alameda Creek Watershed Above Niles." By W. R. Hansen. Unpublished office report. 1961.

DWR-MCS ----. "Mokelumne, Calaveras, and Stanislaus River Basins Investigation." By F. C. Kresse. Unpublished office report. 1960.

DWR-T ----. "Engineering Geology of Tuolumne Water District No. 2." By R. G. Scott. Unpublished office report. 1961.

DWR-G ----. "Garrett Tunnel." By P. Banks, T. I. Iwamura, and L. West. Unpublished office report. 1958.

DWR-TG ----. "Geologic Map of the Thomas-Grindstone Tunnel Alignment." By F. Kilmer and others. Unpublished office report. 1959.

DWR-DR ----. "Areal Geology and Geologic Sections, Dos Rios Tunnel Route." By C. W. Wyatt and C. Taylor. Unpublished office report. 1958.

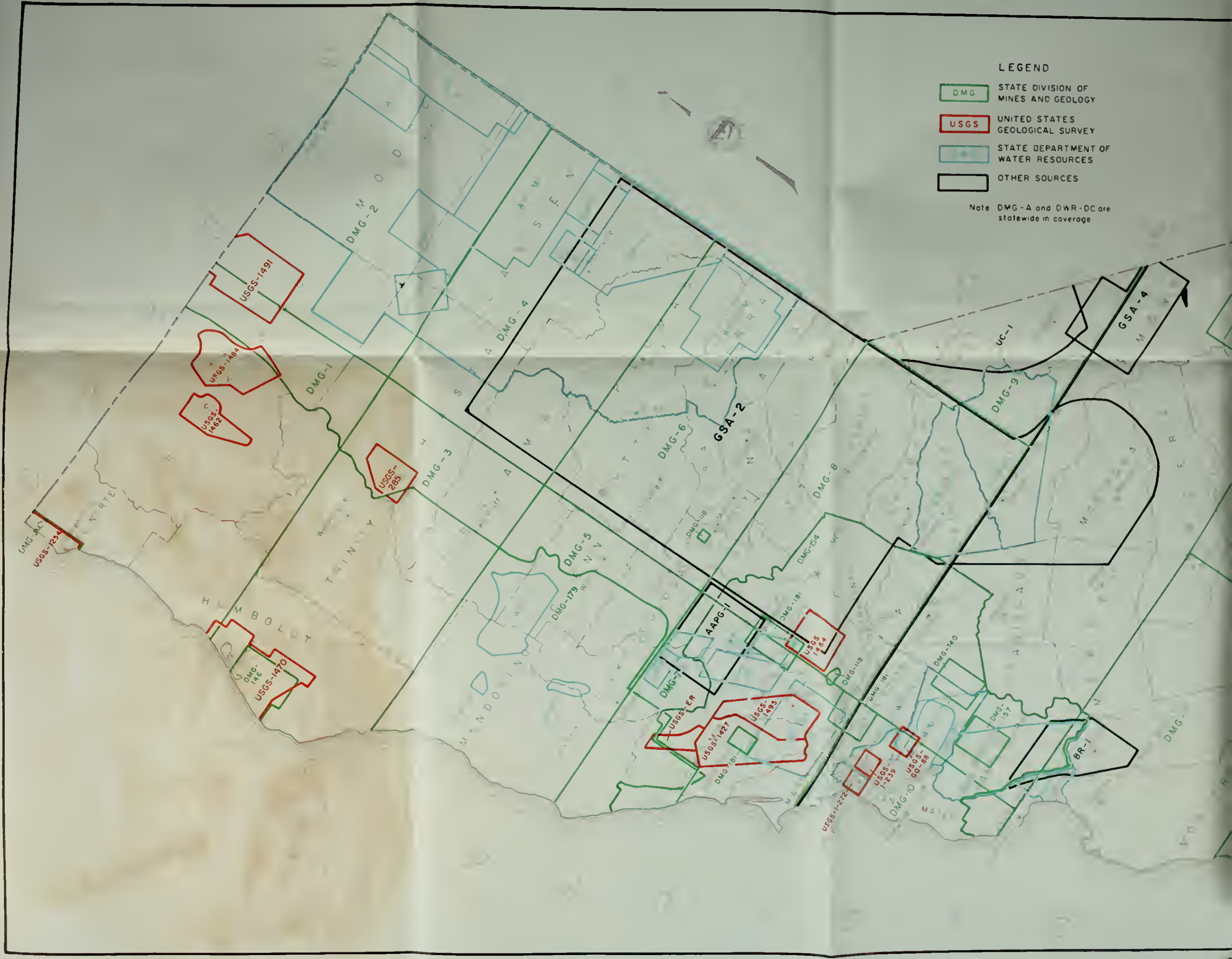
DWR-CI ----. "Coachella Investigation (preliminary geologic map)." By Clifford Farrell and others. Unpublished report. 1962.

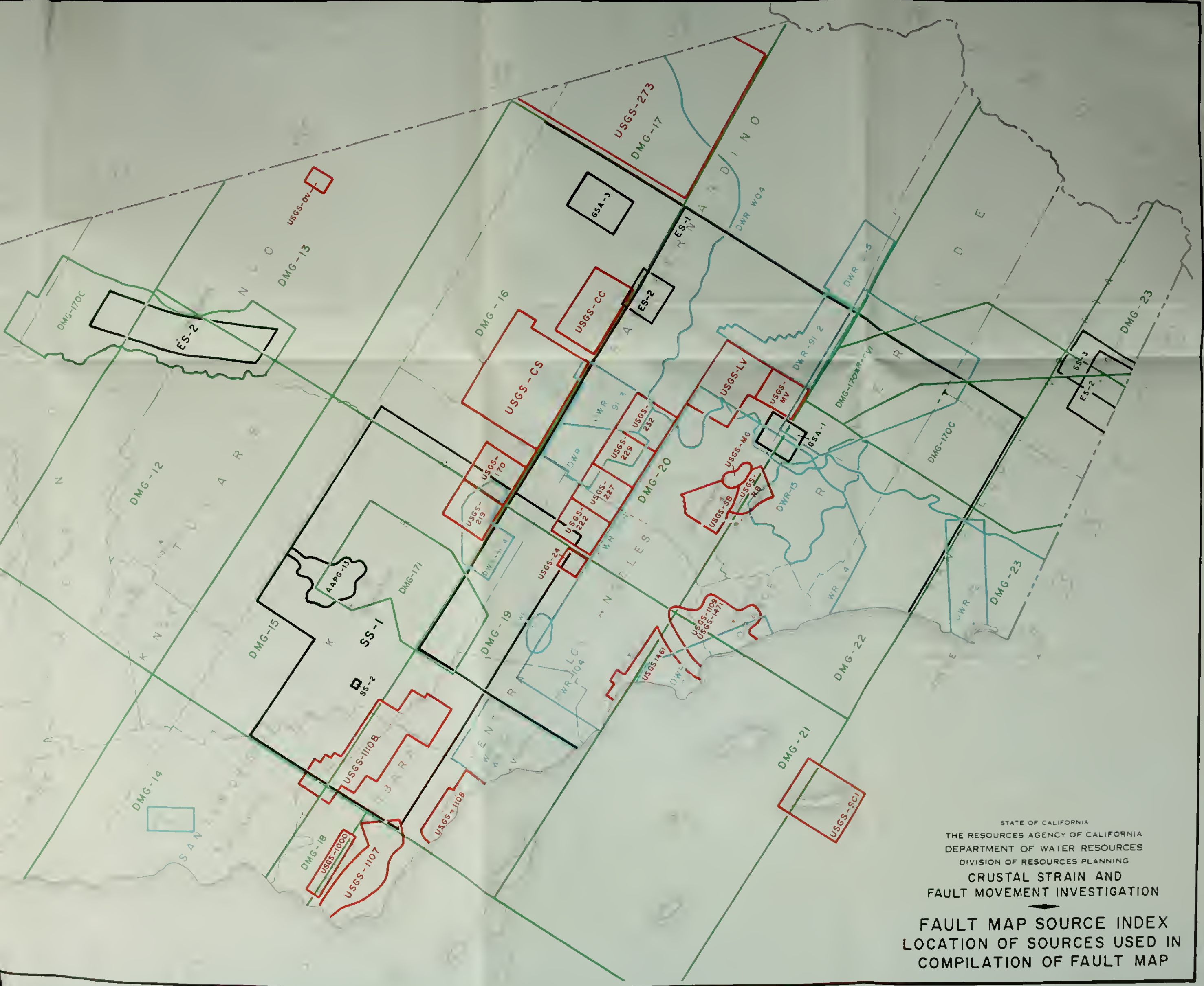
BULLETIN No. 116-2

PART 3

EARTHQUAKE EPICENTER AND FAULT MAP OF CALIFORNIA

Northern Section, Notes and Inset Maps
Central Section
Southern Section


LEGEND
DMG — STATE DIVISION OF MINES AND GEOLOGY
USGS — UNITED STATES GEOLOGICAL SURVEY
STATE DEPARTMENT OF WATER RESOURCES
OTHER SOURCES
Note DMG-A and DWR-DC are statewide in coverage
DMG-2
DMG-4
DMG-1
DMG-3
DMG-5
DMG-6
DMG-7
DMG-8
DMG-9
DMG-10
DMG-118
DMG-154
DMG-179
DMG-181
DMG-140
DMG-157
DMG-146
DMG-142
DMG-
USGS-1491
USGS-1484
USGS-1462
USGS-285
USGS-1254
USGS-1470
USGS-1464
USGS-ER
USGS-1427
USGS-1495
USGS-I-239
USGS-GO-88
USGS-I-272
GSA-2
GSA-4
AAPG-1
UC-1
BR-1
DEL NORTE
HUMBOLDT
TRINITY
MENDOCINO
MODOC
SHASTA
LASSEN



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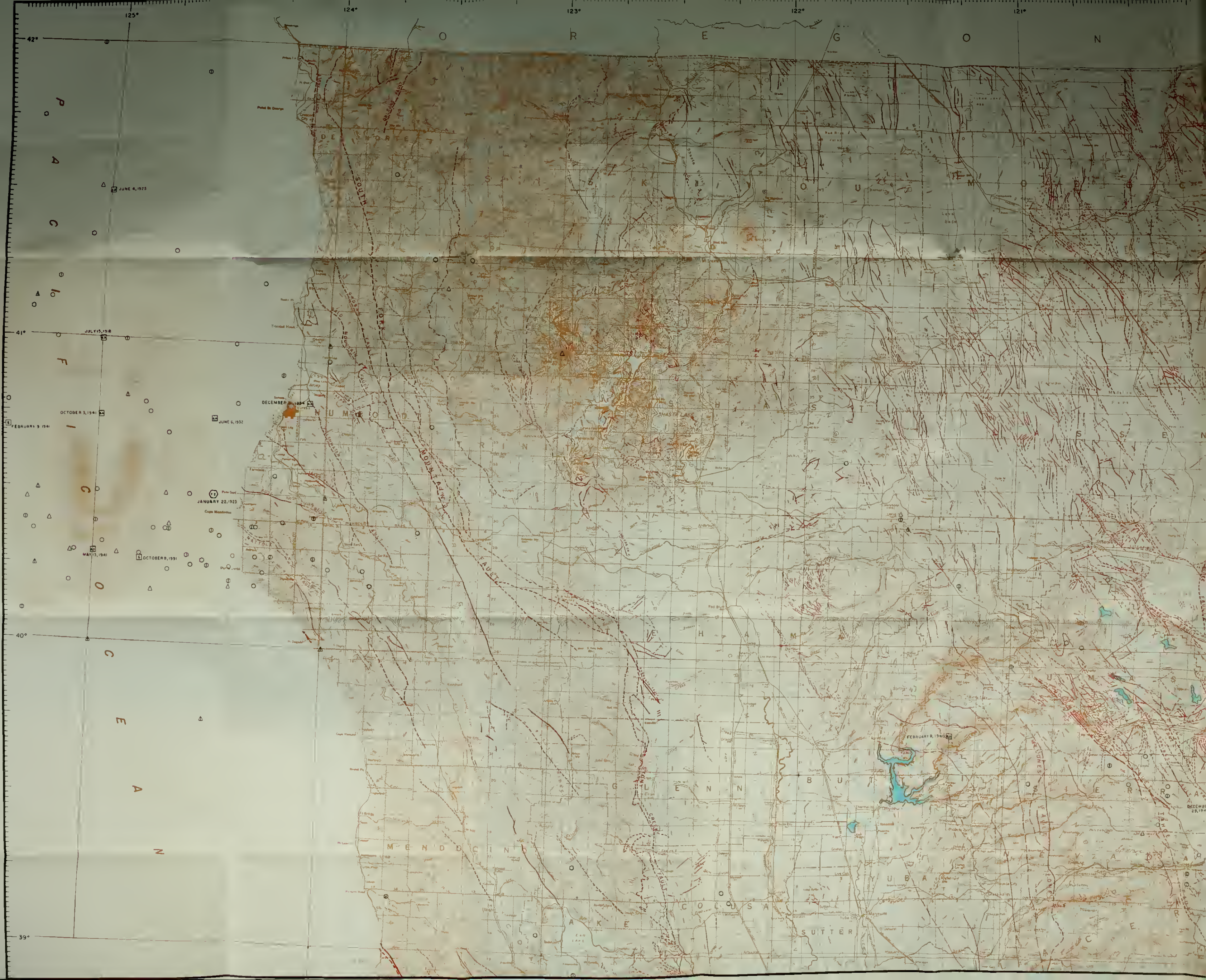
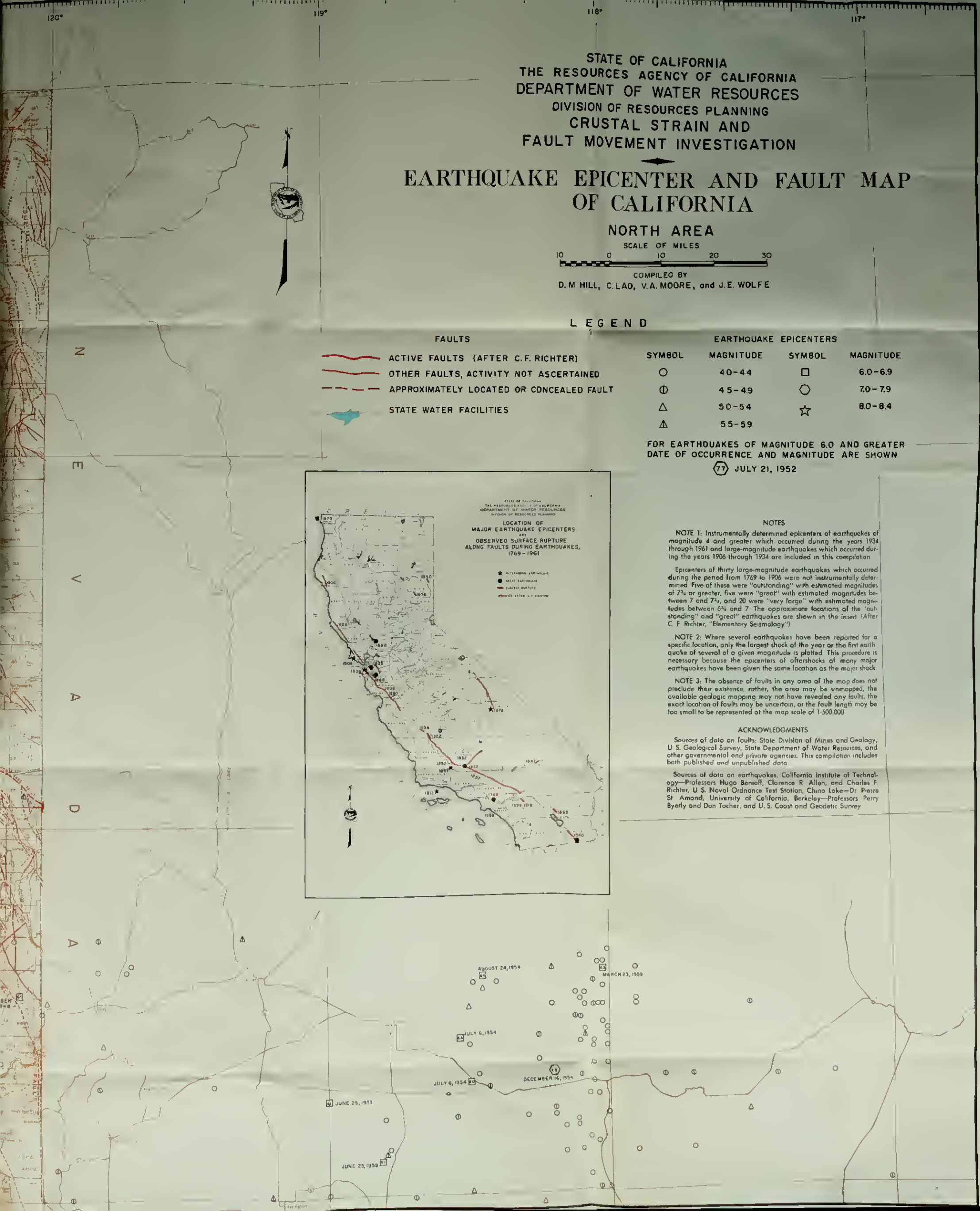
DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING

CRUSTAL STRAIN AND
FAULT MOVEMENT INVESTIGATION

FAULT MAP SOURCE INDEX
LOCATION OF SOURCES USED IN
COMPILATION OF FAULT MAP


125°
124°
123°
122°
121°
42°
41°
40°
39°
O R E G O N
P A C I F I C O C E A N
DEL NORTE
S I S K I Y O U
M O D O C
H U M B O L D T
T R I N I T Y
S H A S T A
L A S S E N
T E H A M A
P L U M A S
G L E N N
B U T T E
M E N D O C I N O
L A K E
C O L U S A
Y U B A
S U T T E R
N E V A D A
P L A C E R
SOUTH FORK MOUNTAIN FAULT
SHASTA LAKE
JUNE 4, 1925
JULY 15, 1918
OCTOBER 3, 1941
FEBRUARY 9, 1941
JUNE 6, 1932
DECEMBER 21, 1954
JANUARY 22, 1923
MAY 13, 1941
OCTOBER 8, 1951
FEBRUARY 8, 1940
Trinidad Head
Eureka
Ferndale
Cape Mendocino
Redding
Red Bluff
Durham
Marysville
Yuba City



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DEPARTMENT OF WATER RESOURCES
DIVISION OF RESOURCES PLANNING
CRUSTAL STRAIN AND
FAULT MOVEMENT INVESTIGATION

EARTHQUAKE EPICENTER AND FAULT MAP OF CALIFORNIA

NORTH AREA

SCALE OF MILES
10 0 10 20 30

COMPILED BY
D. M HILL, C. LAO, V. A. MOORE, and J. E. WOLFE

LEGEND

FAULTS

▬	ACTIVE FAULTS (AFTER C. F. RICHTER)
─	OTHER FAULTS, ACTIVITY NOT ASCERTAINED
— —	APPROXIMATELY LOCATED OR CONCEALED FAULT
🟦	STATE WATER FACILITIES

EARTHQUAKE EPICENTERS

SYMBOL	MAGNITUDE	SYMBOL	MAGNITUDE
○	4.0–4.4	□	6.0–6.9
⦶	4.5–4.9	⬡	7.0–7.9
△	5.0–5.4	☆	8.0–8.4
⚠	5.5–5.9		

FOR EARTHQUAKES OF MAGNITUDE 6.0 AND GREATER DATE OF OCCURRENCE AND MAGNITUDE ARE SHOWN
⬡ 77 JULY 21, 1952

NOTES

NOTE 1: Instrumentally determined epicenters of earthquakes of magnitude 4 and greater which occurred during the years 1934 through 1961 and large-magnitude earthquakes which occurred during the years 1906 through 1934 are included in this compilation

Epicenters of thirty large-magnitude earthquakes which occurred during the period from 1769 to 1906 were not instrumentally determined Five of these were "outstanding" with estimated magnitudes of 7¾ or greater, five were "great" with estimated magnitudes between 7 and 7¾, and 20 were "very large" with estimated magnitudes between 6¾ and 7 The approximate locations of the "outstanding" and "great" earthquakes are shown in the insert (After C F Richter, "Elementary Seismology")

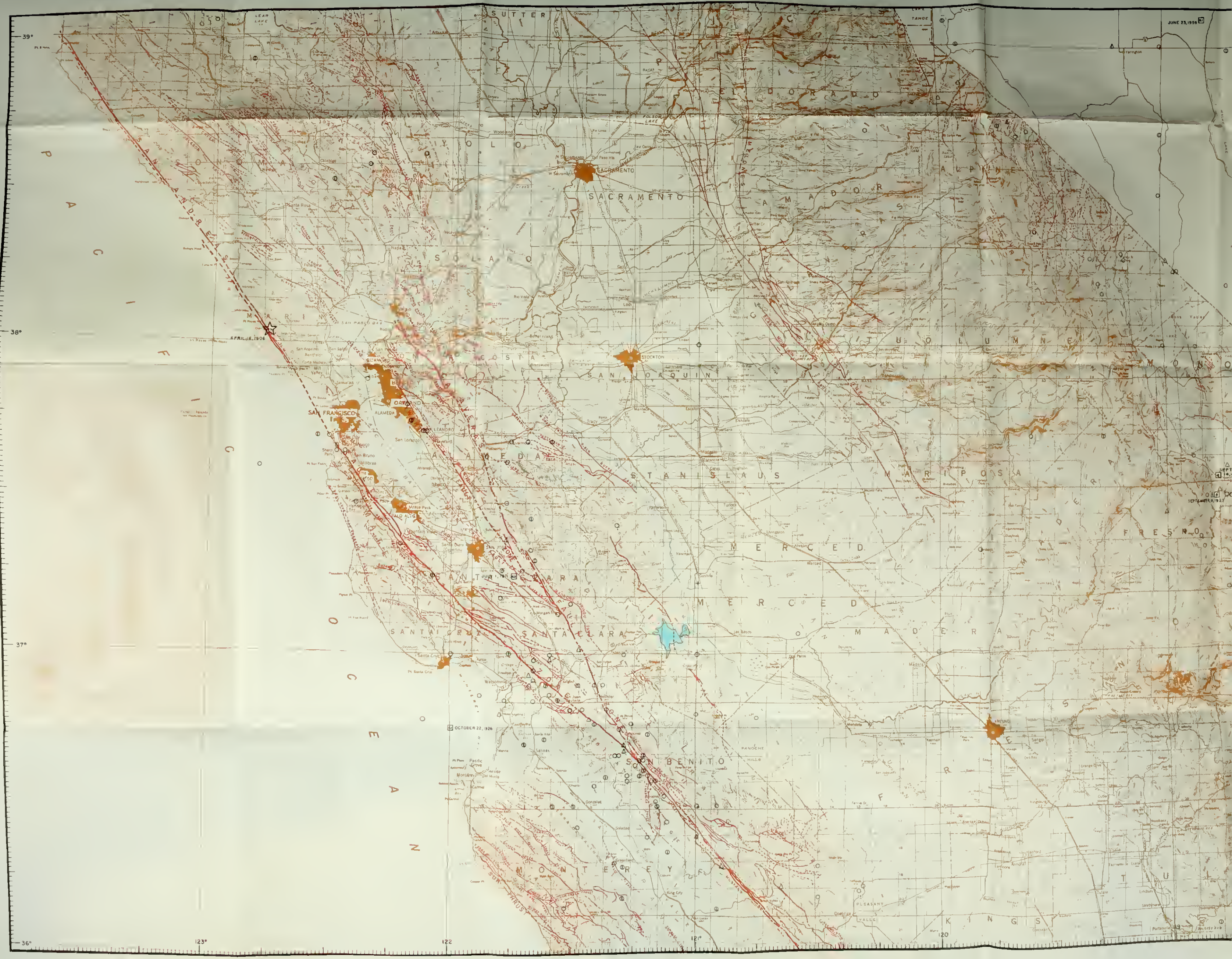
NOTE 2: Where several earthquakes have been reported for a specific location, only the largest shock of the year or the first earthquake of several of a given magnitude is plotted This procedure is necessary because the epicenters of aftershocks of many major earthquakes have been given the same location as the major shock

NOTE 3: The absence of faults in any area of the map does not preclude their existence, rather, the area may be unmapped, the available geologic mapping may not have revealed any faults, the exact location of faults may be uncertain, or the fault length may be too small to be represented at the map scale of 1:500,000

ACKNOWLEDGMENTS

Sources of data on faults: State Division of Mines and Geology, U S. Geological Survey, State Department of Water Resources, and other governmental and private agencies. This compilation includes both published and unpublished data

Sources of data on earthquakes. California Institute of Technology—Professors Hugo Benioff, Clarence R Allen, and Charles F Richter, U S. Naval Ordnance Test Station, China Lake—Dr Pierre St Amand, University of California, Berkeley—Professors Perry Byerly and Don Tocher, and U. S. Coast and Geodetic Survey



39°
38°
37°
36°
123°
122
121°
120
JUNE 23, 1959
APRIL 18, 1906
JULY 1, 1911
OCTOBER 22, 1926
SEPTEMBER 1927
SUTTER
PLACER
EL DORADO
LAKE TAHOE
FOLSOM LAKE
YOLO
SACRAMENTO
AMADOR
ALPINE
SONOMA
NAPA
SOLANO
MARIN
CONTRA COSTA
SAN JOAQUIN
CALAVERAS
TUOLUMNE
MONO
ALAMEDA
STANISLAUS
MARIPOSA
SAN MATEO
SANTA CLARA
MERCED
MADERA
FRESNO
SANTA CRUZ
SAN BENITO
MONTEREY
KINGS
TULARE
PACIFIC OCEAN
SAN ANDREAS
Woodland
Sacramento
Santa Rosa
Stockton
San Francisco
Oakland
Alameda
San Leandro
Menlo Park
Palo Alto
Santa Cruz
Pacific Grove
Monterey
Fresno
PANOCHE HILLS
PLEASANT VALLEY

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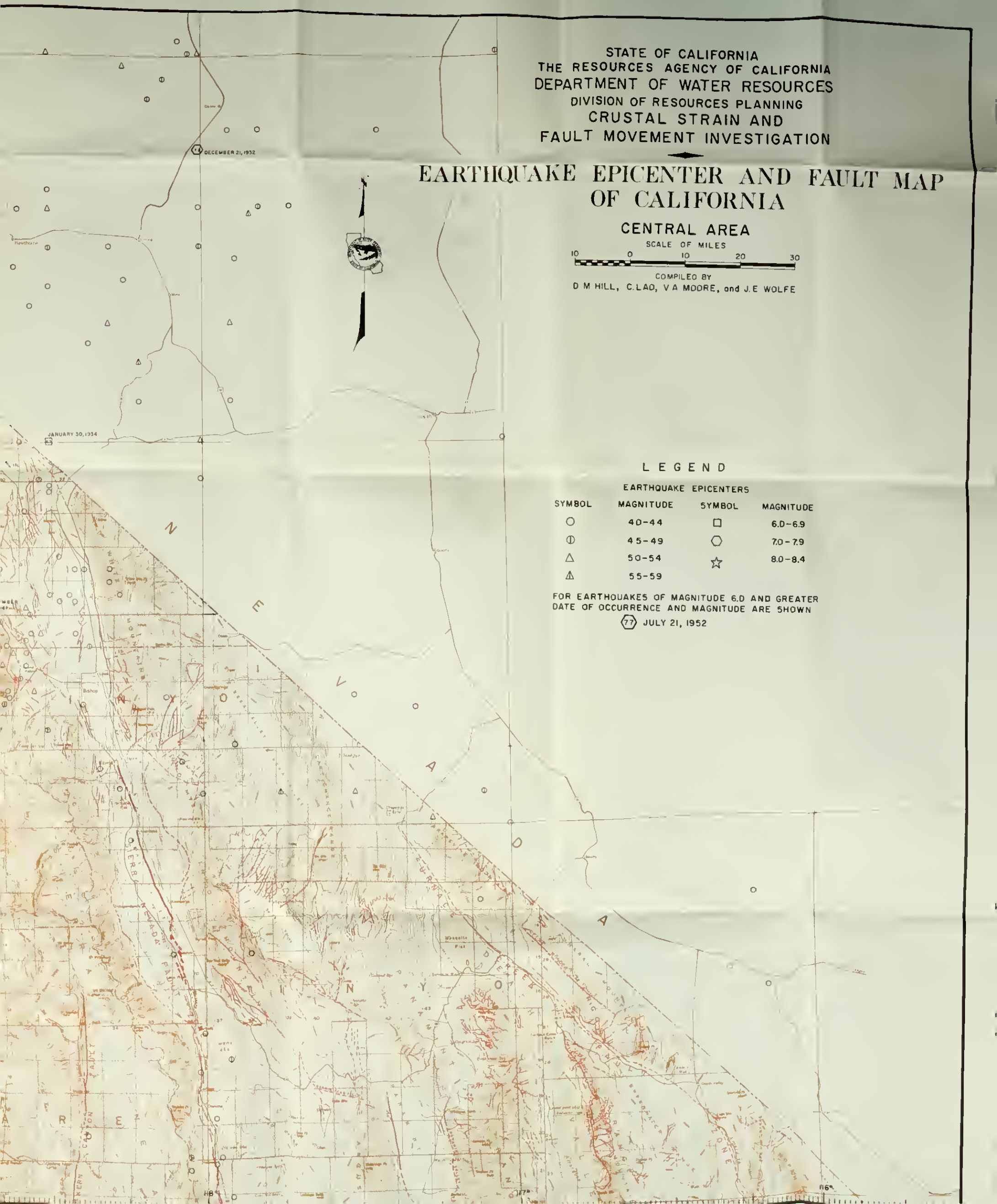
EARTHQUAKE EPICENTER AND FAULT MAP OF CALIFORNIA

CENTRAL AREA

SCALE OF MILES

COMPILED BY
D M HILL, C.LAD, V A MOORE, and J.E WOLFE

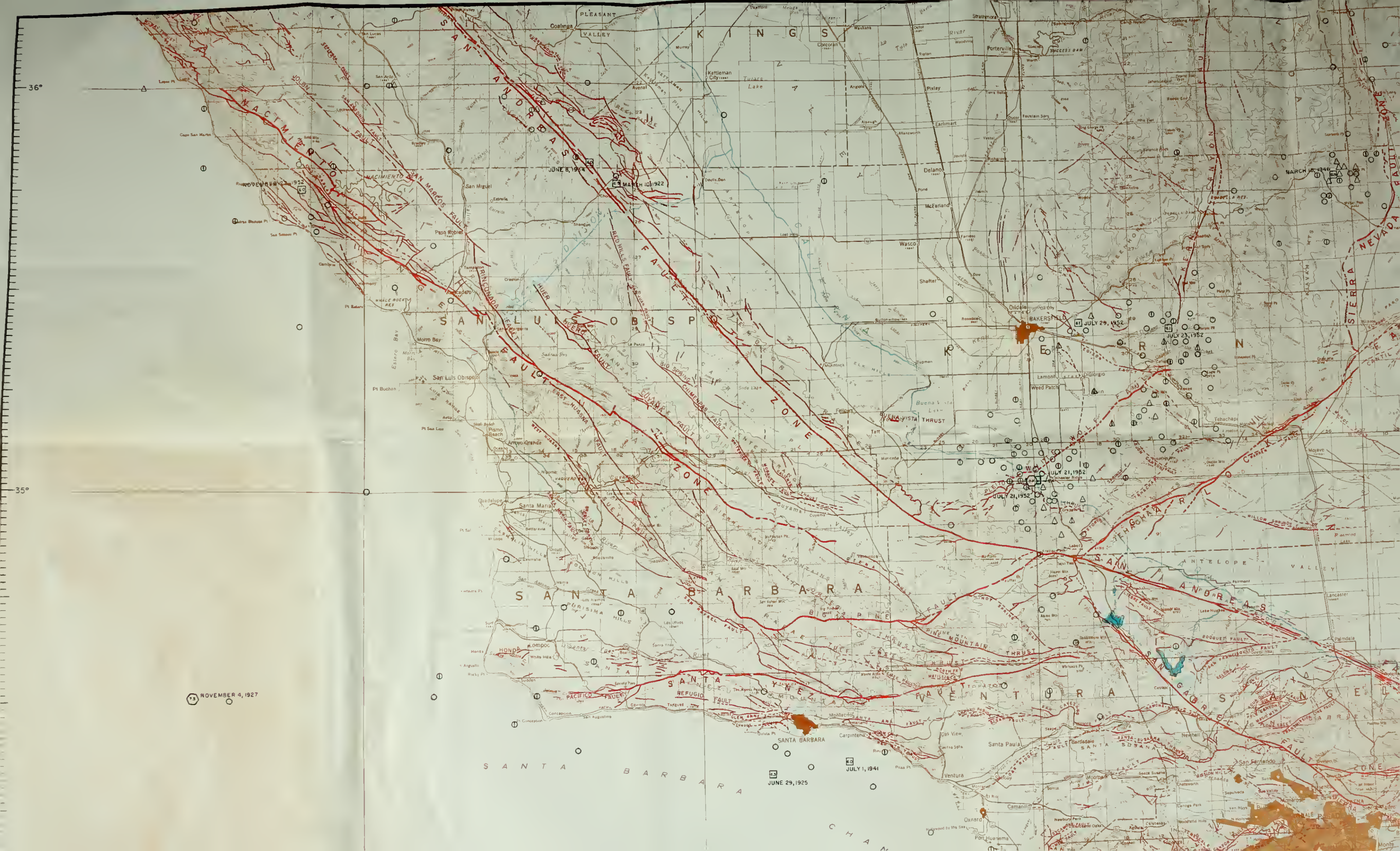


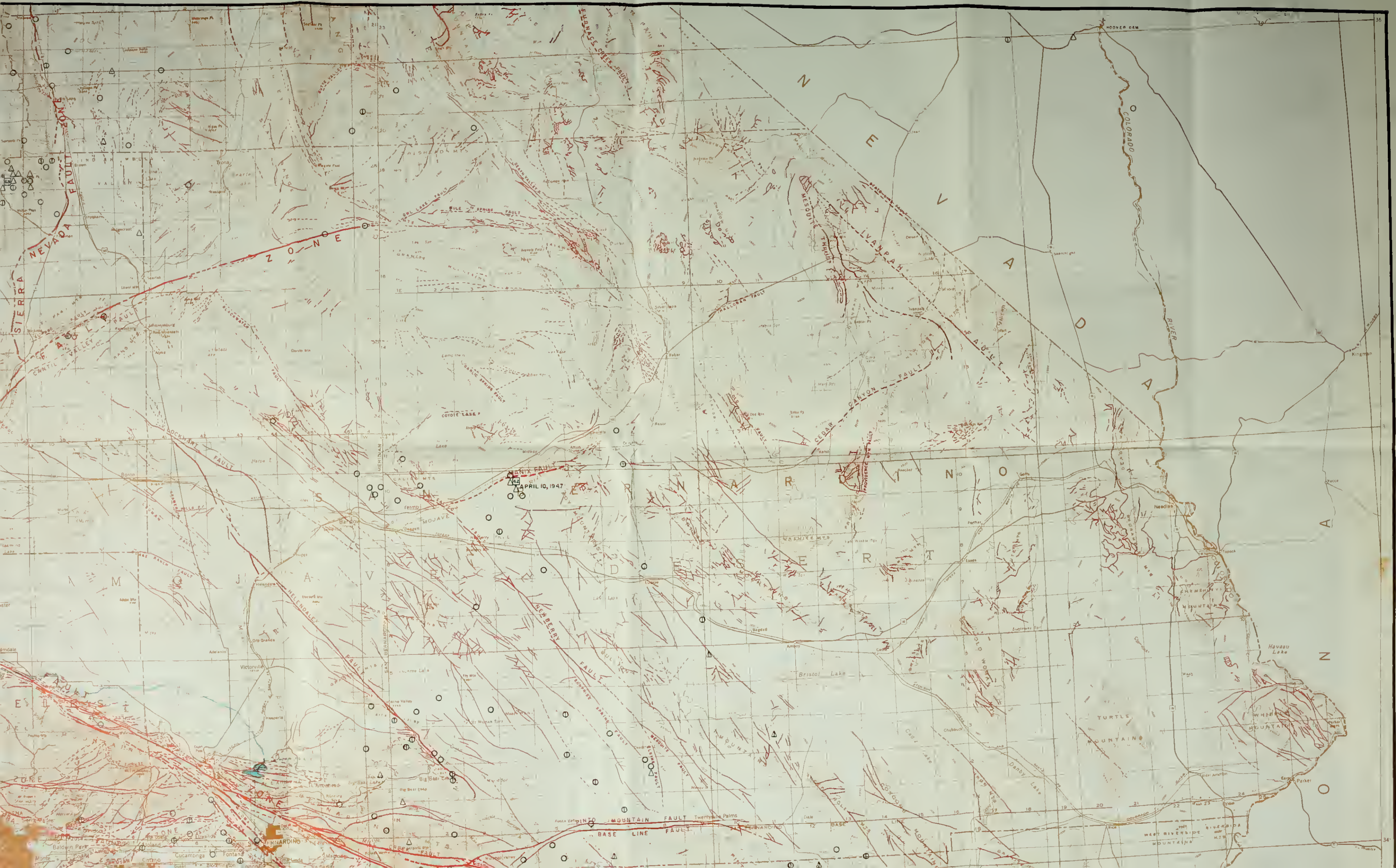
LEGEND

EARTHQUAKE EPICENTERS

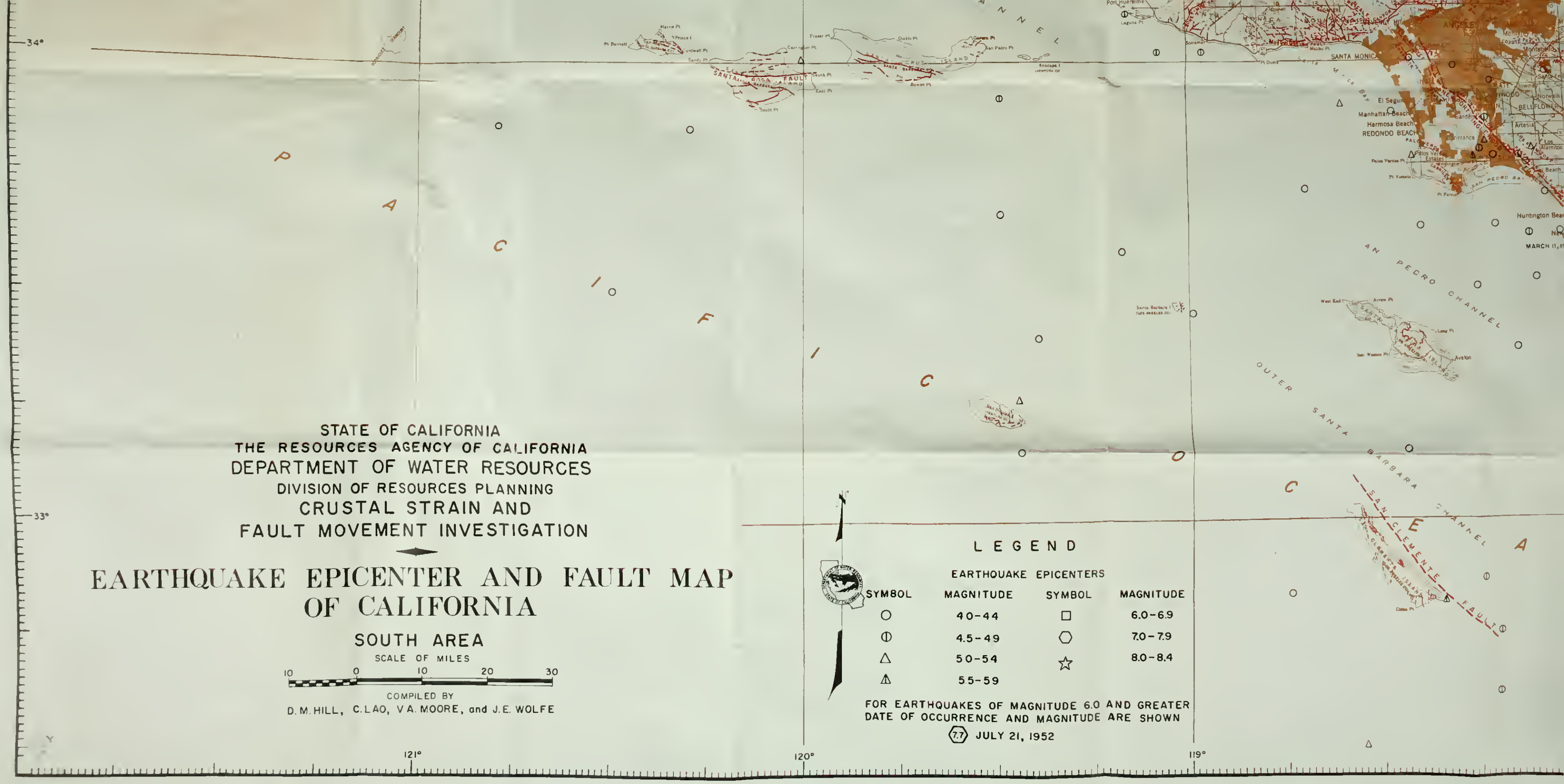
SYMBOL	MAGNITUDE	SYMBOL	MAGNITUDE
○	4.0-4.4	□	6.0-6.9
⦶	4.5-4.9	⬡	7.0-7.9
△	5.0-5.4	☆	8.0-8.4
⚠	5.5-5.9		

FOR EARTHQUAKES OF MAGNITUDE 6.0 AND GREATER DATE OF OCCURRENCE AND MAGNITUDE ARE SHOWN
⬡77 JULY 21, 1952


36°
35°
KINGS
SAN LUIS OBISPO
SANTA BARBARA
KERN
VENTURA
SAN ANDREAS FAULT ZONE
SAN ANDREAS
NACIMIENTO
NACIMIENTO SAN MARCOS FAULT
RINCONADA FAULT
HUER HUERO FAULT
EAST HUASNA FAULT
WEST HUASNA
RED HILLS FAULT
BIG SPRING
CHIMENEAS FAULT
CUYAMA FAULT
NACIMIENTO FAULT ZONE
SAN RAFAEL FAULT
BIG PINE FAULT
PINE MOUNTAIN THRUST
SANTA YNEZ FAULT
PACIFICO FAULT
REFUGIO FAULT
WHITE WOLF FAULT
PLEITO THRUST
BUENA VISTA THRUST
GARLOCK FAULT
BOUQUET FAULT
SAN GABRIEL FAULT
SANTA SUSANA THRUST
KERN CANYON FAULT
SIERRA NEVADA FAULT ZONE
SAN JUAN FAULT
SAN MARCOS FAULT
SANTA MARIA RIVER FAULT
SUEY FAULT
HONDA FAULT
ANTELOPE VALLEY
PLEASANT VALLEY
SANTA BARBARA CHANNEL
JUNE 8, 1934
MARCH 10, 1922
NOVEMBER 1952
NOVEMBER 4, 1927
JULY 29, 1952
JULY 23, 1952
JULY 21, 1952
MARCH 15, 1946
JUNE 29, 1925
JULY 1, 1941
Coalinga
Kettleman City
Tulare Lake
Corcoran
Porterville
Delano
McFarland
Wasco
Shafter
Oildale
BAKERSFIELD
Lamont
Weed Patch
Tehachapi
Mojave
Lancaster
Palmdale
Paso Robles
San Miguel
Templeton
Cambria
Morro Bay
San Luis Obispo
Pismo Beach
Arroyo Grande
Santa Maria
Guadalupe
Lompoc
SANTA BARBARA
Carpinteria
Ventura
Oxnard
Santa Paula
Fillmore
Newhall
San Fernando
Pt Buchon
Pt Conception
Pt Sal
Shandon
Cholame
Maricopa
Taft
Orcutt
Los Alamos
Buellton
Gaviota
Montecito
Camarillo
Moorpark



HOOVER DAM
NEVADA
ARIZONA
COLORADO RIVER
SIERRA NEVADA FAULT ZONE
GARLOCK FAULT ZONE
FURNACE CREEK FAULT
DEATH VALLEY
OWL LAKE FAULT
MULE SPRING FAULT
IVANPAH FAULT
MESQUITE THRUST
HALLORAN FAULT
CEDAR CANYON FAULT
PROVIDENCE MTS
GARLIC SPRING FAULT
COYOTE LAKE F
LOCKHART FAULT
MANIX FAULT
APRIL 10, 1947
CALICO MTS
Yermo
Barstow
MOJAVE
SAN BERNARDINO
MOJAVE DESERT
HELENDALE FAULT
NEWBERRY FAULT
Victorville
Hesperia
Bristol Lake
Amboy
Needles
Kingman
Havasu Lake
Parker
TURTLE MOUNTAINS
WHIPPLE MOUNTAINS
PINTO MOUNTAIN FAULT
BASE LINE FAULT
Twentynine Palms
Big Bear Lake
SAN BERNARDINO
Baldwin Park
Cucamonga
Fontana
Ontario
Bloomington
ZONE



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EARTHQUAKE EPICENTER AND FAULT MAP OF CALIFORNIA

SOUTH AREA

SCALE OF MILES

10 0 10 20 30

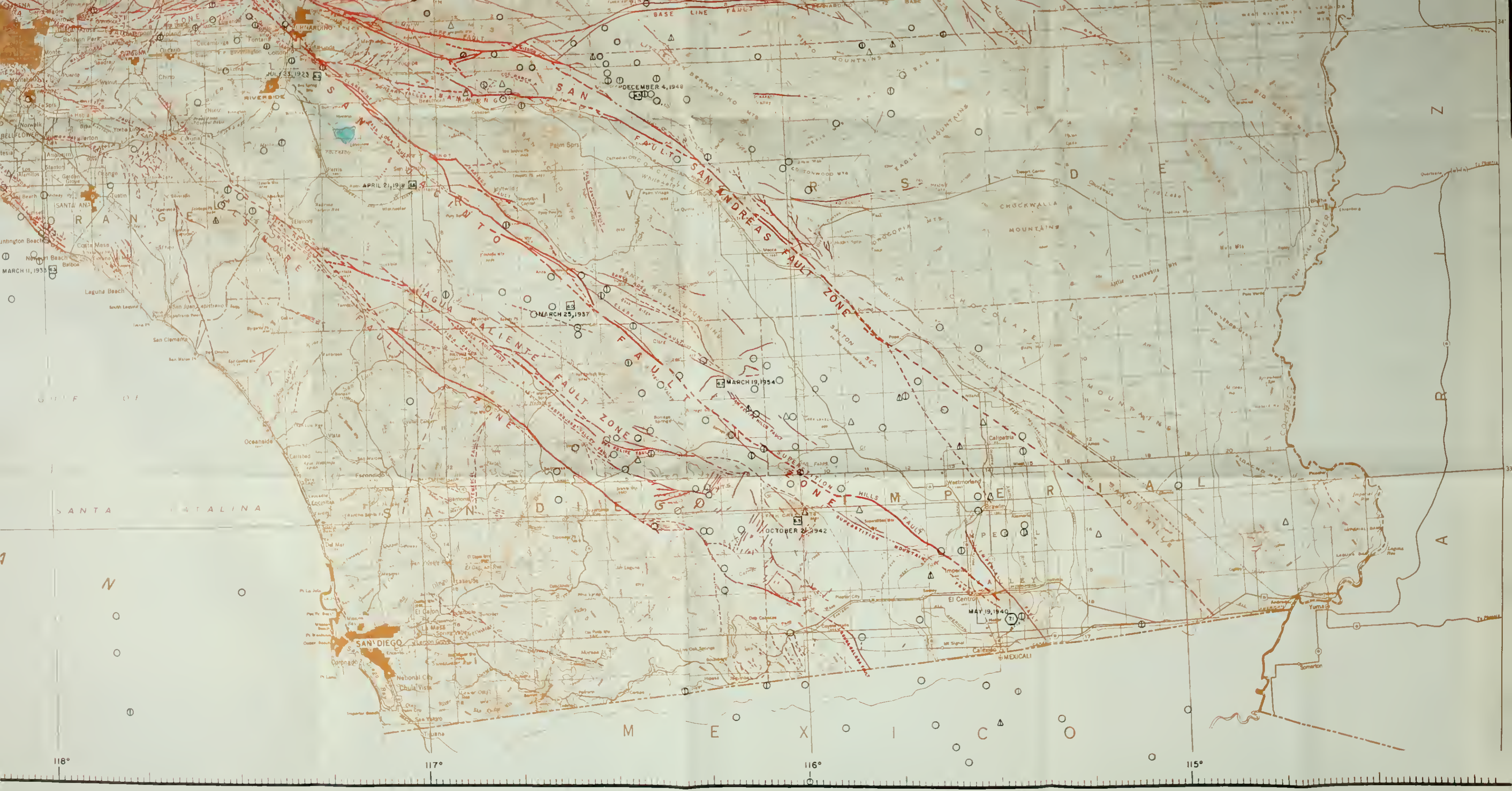
COMPILED BY
D. M. HILL, C. LAO, V. A. MOORE, and J. E. WOLFE

LEGEND

EARTHQUAKE EPICENTERS

SYMBOL	MAGNITUDE	SYMBOL	MAGNITUDE
○	4.0-4.4	□	6.0-6.9
⦶	4.5-4.9	⬡	7.0-7.9
△	5.0-5.4	☆	8.0-8.4
⟁	5.5-5.9		

FOR EARTHQUAKES OF MAGNITUDE 6.0 AND GREATER
DATE OF OCCURRENCE AND MAGNITUDE ARE SHOWN
⬡7.7 JULY 21, 1952


SAN ANDREAS FAULT ZONE
SAN JACINTO FAULT ZONE
AGUA CALIENTE FAULT ZONE
ELSINORE FAULT ZONE
BASE LINE FAULT
SUPERSTITION HILLS FAULT
SUPERSTITION MOUNTAIN FAULT
SANTA ROSA MOUNTAINS
CHOCOLATE MOUNTAINS
CHUCKWALLA MOUNTAINS
OROCOPIA MTS
EAGLE MOUNTAINS
COTTONWOOD MTS
RIVERSIDE
SAN DIEGO
IMPERIAL
ORANGE
SANTA ANA
SAN BERNARDINO
MEXICALI
Yuma
El Centro
Brawley
Calipatria
Westmorland
Imperial
Calexico
Indio
Palm Springs
Banning
Beaumont
Hemet
Elsinore
Escondido
Oceanside
La Jolla
Coronado
National City
Chula Vista
El Cajon
La Mesa
Tijuana
Laguna Beach
Newport Beach
Huntington Beach
Costa Mesa
Anaheim
Fullerton
Norwalk
Bellflower
Pomona
Ontario
Upland
Colton
Redlands
Blythe
Salton Sea
JULY 23, 1923
DECEMBER 4, 1948
APRIL 21, 1918
MARCH 11, 1933
MARCH 25, 1937
MARCH 19, 1954
OCTOBER 21, 1942
MAY 19, 1940
GULF OF SANTA CATALINA
M E X I C O
A R I Z
COLORADO RIVER
118°
117°
116°
115°
34°
33°

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